KINETWORKS™ SERVICES Version 15MR15

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MULTI-IMMUNOBLOTTING ANALYSIS CUSTOMER INFORMATION PACKAGE

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Toll free: 1-866-KINEXUS or 604-323-2547 Facsimile: 604-323-2548 E-mail: info@kinexus.ca www.kinexus.ca

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VALUP



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KINETWORKS[™] MULTI-IMMUNOBLOTTING

1. INTRODUCTION

The Kinetworks[™] signal transduction protein profiling services are a convenient, reliable and cost-effective solution to assist scientists in the discovery of productive research leads. These services utilize a proprietary technology based on multi-immunoblotting that generates a unique identification pattern for each sample analyzed and can provide information about the quantitative expression level for each protein detected, its covalent modification, its subcellular location and the identification of protein-protein interactions. It is highly accurate, since the detection of a target protein is based on its immunoreactivity and apparent molecular mass. Kinexus has undertaken the testing of more than 6,000 commercial antibodies to select the most potent and specific antibodies for detecting low abundance proteins over a wide range of model systems. The Kinetworks[™] approach, which has been under development and field-tested for over eight years, is faster and more sensitive for specific protein detection and offers greater versatility and reproducibility than many other proteomics methods. Presently, Kinexus can track more than 500 different cell signalling proteins, 333 unique phosphosites and several hundred unknown cross-reactive proteins, and intends to increase the number of signalling proteins and phosphosites that it can track to over 1200 in the near future. Only our Kinex[™] antibody microarray services provide a cheaper alternative to profiling changes in protein expression and phosphorylation than our Kinetworks™ protein profiling, but the microarray approach is less accurate and generates a high degree of false positives and false negatives. Our Kinetworks™ Custom Antibody Screen (KCPS 1.0) is the recommended route to validate interesting results that are generated from our Kinex™ microarray services.

Kinexus currently offers 6 different standard analytical signal transduction protein profiling services. The lists of target proteins tracked in each standard screen are referenced in Appendix B-G. In addition to our standard screens, we offer 2 flexible custom screening services including the Kinetworks[™] Custom (Multi-Antibody) Protein Screen (KCPS 1.0) that allows clients to choose *any* 18 antibodies of interest out of more than 875, which are listed in Appendix H. The Kinetworks[™] Custom (Multi-Sample) Screen (KCSS 1.0) allows clients to choose up to 3 target proteins (of diverse molecular weight) quantitated in 8 different samples side by side on the same immunoblot. The Kinex[™] antibody microarray service KAM-880 tracks over 830 unique signalling proteins and phosphosites with 877 antibodies in duplicate in two samples on the same microarray slide. For more information about this service, please review the Kinex[™] Customer Information Package available on-line from our website at <u>www.kinexus.ca</u>. Clients can compare and correlate their experimental results with our Kinetworks[™] services with thousands of other Kinetworks[™] analyses that Kinexus has performed over the last 16 years by querying our KiNET-IB databank on-line (<u>www.kinexus.ca/kinet</u>).

IMPORTANT NOTICE – Our Kinetworks[™] analyses of over 10,000 cell/tissue samples have revealed that there is a high degree of variability in the expression and phosphorylation levels of signal transduction proteins in diverse cell and tissue type that is species, organ, tissue and gender dependent. Consequently, we recommend that our standard Kinetworks[™] Screens be performed initially to ascertain which target proteins are

detectable in your experimental model systems before conducting any Custom Screens. All experimental results should be reproduced prior to publication in accordance with good laboratory practices.

Kinexus provides both qualitative and semi-quantitative analyses of the expression and phosphorylation states of protein kinases and cell signalling proteins in cell and tissue samples as part of the Kinetworks[™] screening service. The qualitative analyses include TIFF files of the immunoblots that feature the detected target signalling proteins (see example of a Kinetworks[™] immunoblot image below). The Kinetworks[™] analysis has been specially optimized to reveal band shifts in signalling proteins on SDS-PAGE gels that may arise from their phosphorylation. The quantitative analysis of the strength of the enhanced chemiluminescence signal for each target protein is provided in a Microsoft Excel spreadsheet. For multiple samples within the same profiles, Kinexus provides Comparison Reports for the target proteins and graphs the data against the control samples. The Kinetworks[™] screening service is unmatched for the information that it provides about multiple kinase expressions and phosphorylations in a single assay. To view example images or a sample Kinetworks[™]. All the Kinetworks[™] Screens have been optimized to perform in human, mouse and rat model systems, but can also work for many protein targets in cow, pig, dog, rabbit, chicken, frog, sea star and other various model systems. You can contact a Customer Service Representative at <u>info@kinexus.ca</u> if you would like to view an example of what our Kinetworks[™] Screens may look like in your particular model system.



An example of a KPSS 1.3 multi-immunoblot pattern.

A large body of information and instruction is provided with the Kinetworks[™] Services Customer Information Package. Your careful review of this package will ensure that we can offer the highest level of quality in providing our unique proteomics services to you. We have requested a lot of information from you regarding the preparation of your cell/tissue lysate samples so that we can include this with your Kinetworks[™] results in the KiNET databank for the benefit of other scientists in the future. For these rights, we have discounted our standard charges by 50% with our Non-Confidential Pricing. You should find that the proper entry of information into the various forms provided by Kinexus will also be useful for your own reference at a later date when you receive your Kinetworks[™] results. Should you have any questions or concerns, we would be pleased to hear from you. Thank you in advance for letting Kinexus become one of your research partners.

2. QUANTITY OF LYSATE REQUIRED

The Kinetworks[™] Phosphosite Screening Services (KPSS) require 500 µg of crude cell/tissue lysate. For the Custom Screens, the KCPS-1.0 Multi-Antibody Screen (1 sample/18 antibodies) also requires 500 µg of lysate, while the KCSS-1.0 Multi-Sample Screen (8 samples/3 antibodies) requires 50 µg for each sample submitted. The final protein concentration in SDS-PAGE sample buffer should be 1 mg/ml, although a range of **0.6 - 2.0 mg/ml** is acceptable. If your concentration is higher or lower, please speak to our customer service representatives.

The cell pellet or tissue should be homogenized in the following ice-cold lysis buffer:

- 1. 20 mM MOPS, pH 7.0 (any other buffer at this pH could be substituted);
- 2. 2 mM EGTA (to bind calcium);
- 3. 5 mM EDTA (to bind magnesium and manganese);
- 4. 30 mM sodium fluoride (to inhibit protein-serine phosphatases);
- 5. 60 mM β-glycerophosphate, pH 7.2 (to inhibit protein-serine phosphatases);
- 6. 20 mM sodium pyrophosphate (to inhibit protein-serine phosphatases);
- 7. 1 mM sodium orthovanadate (to inhibit protein-tyrosine phosphatases);
- 1% Triton X-100 (can be substituted with 1% Nonidet P-40)
 Important Note: Do not add if you intend to first prepare a cytosolic fraction.
- 9. 1 mM phenylmethylsulfonylfluoride (to inhibit proteases);
- 10. 3 mM benzamidine (to inhibit proteases);
- 11. 5 µM pepstatin A (to inhibit proteases);
- 12. 10 µM leupeptin (to inhibit proteases);
- 13. 1 mM dithiothreitol (to reduce disulphide linkages)

The final pH of the homogenizing buffer should be adjusted to 7.2. Please note that Kinexus is willing to send an aliquot of our lysis buffer for a fee to any customer who provides a courier account number to charge for the shipping costs. Our lysis buffer contains components 1-7, including phosphatase inhibitors (components 4-7) but *no protease inhibitors* (components 9-12). Clients must add their own protease inhibitors to the lysis buffer immediately before use. For convenience, they may choose to use the Roche Complete Mini inhibitor cocktail tablet with the addition of pepstatin A as opposed to individual protease inhibitors.

Total cellular fractionation: For quantitation of total cellular levels of cell signalling proteins, lysis and homogenization should be performed in the presence of a non-ionic detergent. We recommend the use of 1% Triton X-100 or 1% Nonidet P40, but comparable detergents are acceptable.

Subcellular fractionation: Detergents should be omitted from the homogenization buffer if the subcellular distribution of cell signalling proteins is to be examined. If a particulate-solubilized fraction is to be analyzed, a microsomal pellet should be obtained following the initial homogenization and ultracentrifugation in the absence of detergent and subsequent removal of the cytosolic supernatant. In this instance, the cytosolic extract should be removed and the microsomal pellet should then be resuspended in the homogenization buffer containing 1% Triton X-100 or 1% Nonidet P-40 and subjected to homogenization and ultracentrifugation once again. The resulting detergent-solubilized microsomal fraction should be removed and immediately assayed for its protein concentration. Important things to remember are that the cells or tissues should be processed quickly at 4°C or less. Homogenization should not be performed in too large a volume to obtain lysates at the concentration required. The detergent-soluble fraction should be obtained as quickly as possible after the cells or tissues are homogenized. **Sonication is required and cannot be omitted**. The highest centrifugal forces available should be used to generate the detergent-soluble fraction. The supernatants should be frozen as quickly as possible if a protein assay cannot be performed immediately.

3. PREPARATION OF CELL LYSATES

A. Adherent Cells

- 1. Remove medium from culture dishes containing about 1×10^7 to 2×10^7 cells;
- 2. Rinse the cells twice with ice-cold PBS to remove medium residue (serum must be completely removed from cells); remove as much PBS as possible after the last rinse;
- Add 200 μl ice-cold lysis buffer to 150 mm culture dish per sample (more lysis buffer can be added if cells are concentrated), or add 100 μl ice-cold lysis buffer to 100 mm culture dish;
- 4. Scrape the cells in lysis buffer, collect the cell suspension from the dishes and transfer it into a 1.5-ml microcentrifuge tube;
- 5. Sonicate four times for 10 seconds each time with 10-15 second intervals on ice to rupture the cells and to shear nuclear DNA.

This is a crucial step and cannot be omitted;

- 6. Centrifuge the homogenate at 90,000 x g or more for 30 min at 4°C in a Beckman Table Top TL-100 ultracentrifuge or Beckman Airfuge;
- 7. Transfer the resulting supernatant fraction to a 1.5-ml microcentrifuge tube;
- Assay sample for protein concentration using a commercial Bradford assay reagent (available from Bio-Rad) or using the standard protocol of Bradford (*Bradford, M.M. (1976) A rapid and sensitive method for quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. Anal. Biochem. 72:248-254*). Bovine serum albumin (BSA) should be used as the protein standard. Make sure that the protein concentration is determined before the addition of SDS-PAGE Sample Buffer.

B. Suspension Cells

- Place medium containing cells in appropriate sized tube and spin at 500 x g for 2 minutes at 4°C in a swinging bucket benchtop centrifuge. Remove as much medium from the cell pellet as possible without disrupting cells;
- 2. Wash the pellet by gently resuspending the cells in ice-cold PBS, followed by centrifugation as above. Repeat once to ensure complete removal of serum;
- 3. Remove as much PBS as possible after the last wash;
- 4. Add 200 μ l ice-cold lysis buffer per sample (more lysis buffer can be added if the number of cells is high);
- 5. Sonicate four times for 10 seconds each time with 10-15 second intervals on ice to rupture the cells and to shear nuclear DNA. **This step is crucial and cannot be omitted;**
- 6. Centrifuge the homogenate at 90,000 x g or more for 30 min at 4°C in a Beckman Table Top TL-100 ultracentrifuge or Beckman Airfuge;
- 7. Transfer the resulting supernatant fraction to a 1.5-ml microcentrifuge tube;
- Assay sample for protein concentration using a commercial Bradford assay reagent (available from Bio-Rad) or using the standard protocol of Bradford (*Bradford, M.M. (1976) A rapid and sensitive method for quantitation of microgram quantities of protein utilizing the principle of protein-dye binding Anal. Biochem. 72:248-254*). Bovine serum albumin (BSA) should be used as the protein standard. Make sure that the protein concentration is determined before the addition of SDS-PAGE Sample Buffer.

4. PREPARATION OF CELL PELLETS

For an additional fee of \$200 per sample, Kinexus will process your cell pellets into a lysate for processing with any of our KinetworksTM screens. To prepare your cell pellets for shipping to Kinexus, please follow steps 1-4 below and label the tubes containing your pellets accordingly. Cell pellets must be shipped on dry ice. Clients may need to prepare as much as 2×10^7 cells to ensure sufficient quantity.

A. Adherent cells:

- 1. Remove the medium and rinse the cells in dish with ice-cold PBS once;
- 2. Detach cells with trypsin as one does in passaging cells, followed by the addition of equal volume of medium;
- 3. Collect cells in a 15-ml conical tube and centrifuge at 500 x g for 2 minutes at 4°C in a swinging bucket benchtop centrifuge;
- 4. Wash the pellet twice with ice-cold PBS thoroughly (The presence of serum from medium could skew the protein assay); Remove as much PBS as possible (The presence of liquid residue dilutes the sample and may also result in the damage of cells during the freezing process);
- 5. Freeze the pellet for shipping. Pellet must be shipped on dry ice.

B. Suspension cells:

Simply follow steps 1-3 in the Section 3B and freeze the cell pellet immediately. **Pellets must be shipped on dry ice at the expense of the client.**

5. TISSUE PREPARATION

- 1. Use 1 ml of lysis buffer per 250 mg wet weight of the chopped tissue;
- 2. Rinse the tissue pieces in ice-cold PBS three times to remove blood contaminants;
- 3. Homogenize the tissue on ice with 15 strokes of a glass dounce (or 3 times for 15 seconds each time with a Brinkman Polytron Homogenizer or with a French Press as alternatives);
- 4. Sonciate the homogenate 4 times for 10 seconds on ice each time to shear nuclear DNA. **This step** is crucial and cannot be omitted;
- 5. Centrifuge the homogenate at 90,000 x g or more for 30 min at 4°C in a Beckman Table Top TL-100 ultracentrifuge or Beckman Airfuge;
- 6. Transfer the resulting supernatant fraction to a new tube and subject it to a protein assay using a commercial Bradford assay (available from Bio-Rad) or using the standard protocol of Bradford (*Bradford, M.M. (1976) A rapid and sensitive method for quantitation of microgram quantities of protein utilizing the principle of protein-dye binding Anal. Biochem. 72:248-254).* Bovine serum albumin (BSA) should be used as the protein standard. **Make sure that the protein concentration is determined before the addition of SDS-PAGE Sample Buffer.**

6. SAMPLE BUFFER PREPARATION

We recommend the final composition of SDS-PAGE Sample Buffer in the sample be: 31.25 mM Tris-HCI (pH 6.8), 1% SDS (w/v), 12.5% glycerol (v/v), 0.02% bromophenol blue (w/v), and 1.25 % β -mercaptoethanol. The cell/tissue samples should be boiled for four (4) min at 100°C in the SDS-PAGE Sample Buffer. (See Appendix A for detailed instructions on preparing the Sample Buffer). Please note that Kinexus is willing to send customers an aliquot of Sample Buffer (but without the β -mercaptoethanol) for a small fee. If this option is of interest, please contact a customer services representative for details.

7. PREPARATION FOR STORAGE AND SHIPPING OF SAMPLES

The final protein concentration of the cell/tissue samples should be <u>1 mg/ml</u> in SDS-PAGE Sample Buffer as specified by Laemmli (*Laemmli, U.K. (1970) Cleavage of structural proteins during the assembly of the head of bacteriophage T4. Nature 227:680-684*). For all screens, the minimum acceptable protein concentration of the cell/tissue samples in the SDS-PAGE Sample Buffer is <u>0.6 mg/ml</u> and the maximum concentration is <u>2.0 mg/ml</u>. Please record the actual concentration and volume of each sample on the Sample Description Form (Box B of KW-NSDF-01 or KW-CSDF-01).

For all standard screens, at least 500 µg (i.e. 500 µl of 1 mg/ml protein) of boiled cell/tissue extract protein in the SDS-PAGE Sample Buffer should be aliquoted into a 1.5-ml Eppendorf *screw cap* vial. For the Custom Screens, the KCPS-1.0 Multi-Antibody Screen also requires <u>at least</u> 500 µg of cell/tissue lysate, while the KCSS-1.0 Multi-Sample Screen requires <u>at least</u> 50 µg per sample. There should be one vial per sample for each screen requested, except for the KCSS-1.0 Multi-Sample Custom Screen, which can have up to 8 different samples. The vials should be clearly labeled with an indelible marker with an unique identification number (recorded on the Sample Description Form), <u>parafilmed</u>, and then put into a secondary support container such as a 50-ml conical centrifuge tube to provide extra protection to prevent accidental leakage during shipping. It is not necessary to refrigerate or freeze the samples during shipping once they are in SDS-PAGE Sample Buffer.

8. SHIPPING INFORMATION

The aforementioned procedure has been designed to reduce the use of shipping materials and courier costs, and to ensure that your precious samples arrive in a safe and stable form at our laboratory facilities. Clients are responsible for all shipping costs by courier. The sample vials should be sent to the address listed below. The samples may be shipped at room temperature if they are in SDS-PAGE Sample Buffer, but delivery on dry ice is acceptable. We recommend shipping through Federal Express Courier. However, for dry ice shipments coming from outside of North America, the preferred choice is World Courier. Ship your samples to the following address:

Kinetworks[™] Screening Services Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547

Please ensure 3 copies of a signed commercial invoice accompany your shipment which specifies your samples are non hazardous and non infectious. Since the samples are not for resale, the value of your shipment should be priced at approximately \$1.00 per sample in order to avoid paying additional duties and

taxes on entry into Canada. It is also highly recommended that customers email their Federal Express airway bill number and the date of departure to <u>info@kinexus.ca</u> so we can track your shipment in transit and ensure it arrives in a timely manner. We will send a confirmation email once your shipment arrives at our facility.

9. PRICING INFORMATION

Kinexus offers the Kinetworks[™] services at two different pricing levels depending on the level of confidentiality required for your samples. Our regular prices for any of our Standard Services start at US \$1,498/sample for each sample submitted for analysis if the sample information is to remain fully confidential. At this pricing level, only the species needs to be disclosed. To receive a 50% discount off the regular price, or pay \$749/sample for each standard screen ordered, Kinexus requires the Client Supplied Non-Confidential Sample Description Form (KW-NSDF-01) be completed in full (Sections A-K) including species, organ, tissue, cell, cell state, fractionation, perturbation, and treatment for each sample being analyzed. The cost of our Custom Services is also dependant on the amount of information that can be disclosed about your samples. At the non-confidential pricing level, the cost of our Custom Services is US \$549 to \$749 per sample, while confidential pricing is US \$1,098 to \$1,498 per sample. For volume discounts or quotations for large orders, please contact the Director of Sales & Marketing at 1-866-KINEXUS (option 2 on the telephone directory) or email <u>sales@kinexus.ca</u>.

10. FOLLOW UP SERVICES

Kinexus offers several auxiliary services to complement your Kinetworks[™] data including a drawing service to obtain presentation-ready Microsoft PowerPoint slides or publication-ready figures (e.g. colored overlays of immunoblot images or bar graphs of the quantified results of Kinetworks[™] analyses). The differential regulation of detected proteins can be visualized in various colour combinations as presented below. Clients can also visit the Kinexus website and use the tables that list the target proteins to Internet sites with more detailed information about these proteins. Once the results are confirmed by Western blotting, clients can correlate their data with hundreds of other data points from hundreds of different model systems using our KiNET database (subscription fees apply for full access, partial access to mouse control data is free). For more information about any of these services, please contact one of our customer service representatives at <u>info@kinexus.ca</u>.



Example of a labeled colour overlay of two Kinetworks™ multiblots



Examples of different colour overlay possibilities of two Kinetworks™ multiblots.

11. FORMS TO BE COMPLETED

All customers are required to complete the following forms for each order placed:

- A. Kinexus Service Agreement Customers are required to complete and sign our standard Kinexus Service Agreement before their first order can be processed. Unless otherwise specified, this Agreement is valid for all future orders with a standard term of 15 years.
- B. Service Order Form (KW-SOF-01). The Service Order Form (SOF) allows us to track all of the various services to be used within an order.
- C. Service Identification Form Customers should choose one or more of following forms that is applicable: Kinetworks[™] Standard Screen Service Identification Form (KW-SIF-01); Kinetworks[™] Custom KCPS Screen Service Identification Form (KCPS-SIF-01); Kinetworks[™] Custom KCSS Screen Service Identification Form (KCSS-SIF-01). The Service Identification Form (SIF) permits us to determine how many samples and antibodies are to be used for a particular analysis.
- D. Sample Description Form Customers should choose one or both of the following forms that is applicable: Non-Confidential Sample Description Form (KW-NSDF-01); Confidential Sample Description Form (KW-CSDF-01). If clients also wish to have their own antibodies utilized in our services, they must complete a Client Supplied Antibody Description Form (KW-CADF-01). The Sample Description Forms (SDF's) allow us to determine the nature of the cell/tissue lysates to the analyzed.
- E. Airway Bill (if samples are to be delivered by courier).
- F. Commercial Invoice (required for all customers located outside of Canada).

All orders should have as a minimum: 1 SOF, 1 SIF, and 2 SDF forms completed, along with a courier airway bill and commercial invoice. A new Kinexus Service Agreement is not necessary if the client has previously placed an order with Kinexus and submitted a signed Kinexus Service Agreement at that time.

FOR ALL CUSTOMERS

A. Kinexus Service Agreement

A Kinexus Service Agreement is required to be signed before the first order can be processed.

• This Agreement is required to be signed and dated by an authorized representative, typically a Senior Officer, Senior Scientist, or Principal Investigator, before the first order can be processed, but does not

have to be signed again for repeat orders. The Kinexus Service Agreement is typically valid for 15 years. If you require changes or modifications to be made to our standard Service Agreement, please email us at <u>sales@kinexus.ca</u> to request a Microsoft Word version of the document so your requested changes can be made directly into the Agreement and emailed to us for our final approval.

B. Service Order Form (KW-SOF-01)

Please ensure:

- Shipping address and contact name and numbers are specified
- Billing information is completed as outlined in Section D the Sample Identification Form
- Any promotional vouchers or quotations are listed in the billing sections
- Include a Purchase Order, Visa or MasterCard number for payment
- The form is signed and dated

C. Service Identification Forms

Kinetworks™ Standard Screen Service Identification Form (KW-SIF-01)

For each sample submitted, please ensure the following:

- No less than 500 µg of protein is provided per sample for all standard Screens requested including KPSS –1.3, 10.1, 11.0, and 12.1 Screen
- In Section A, the customer must assign a unique Client Screen Identification Name to correlate the proteins to be analyzed for each sample submitted
- In Section B, the type of analysis (Kinetworks™ Screen Name) for each sample is specified
- For Section C, your sample(s) are identified by completion of Client Supplied Non-Confidential (KW-NSDF-01) or Confidential (KW-CSDF-01) Sample Description Forms. Make sure that the Client ID Number in Box A of these forms, matched the Client ID Number in Box A of the KW-SIF-01 form
- In Section D, the level of confidentiality is indicated for correct pricing
- The form is certified correct and signed and dated

Custom Kinetworks[™] KCPS Screen Service Identification Form (KCPS-SIF-01)

For each sample submitted, please ensure the following:

- No less than 500 µg of protein is provided for each sample when the KCPS -1.0 Screen requested
- In Section A, the customer must assign a unique Client Screen Identification Name to correlate the proteins to be analyzed for each sample submitted
- In Section B, for each lane indicate which Kinexus antibody is to be used by providing the ID Code from the Table of Antibody Targets provided in Appendix H. If the customer wishes to substitute a Kinexus antibody with one or more antibodies of their own, they must indicate this and enter the name they have chosen for this antibody from Box B of a Client Supplied Antibody Description Form (KW-CADF-01). A separate KW-CADF-01 form should be completed for each antibody.

- For Section C, your sample(s) are identified by completion of Client Supplied Non-Confidential (KW-NSDF-01) or Confidential (KW-CSDF-01) Sample Description Forms. Make sure that the Client ID Number in Box A of these forms, matched the Client ID Number in Box A of the KW-SIF-01 form
- In Section C, if your sample has been previously analyzed with the Kinex[™] KAM or KSAM antibody microarray services, please provide the original Kinexus Order Number for this in order to qualify for a 27% discount off of our regular pricing
- In Section D, the level of confidentiality is indicated for correct pricing
- The form is certified correct and signed and dated

Custom Kinetworks™ KCSS Screen Service Identification Form (KCSS-SIF-01)

For the samples submitted, please ensure the following:

- No less than 50 µg of protein is provided for each of the 8 samples in the KCSS-1.0 Screen
- In Section A, the customer must assign a unique Client Screen Identification Name to correlate the proteins to be analyzed for each sample submitted
- In Section B, for each lane indicate which cell/tissue lysate sample is to be used by providing the client name you have chosen for this sample from Box B of Client Supplied Non-Confidential (KW-NSDF-01) or Confidential (KW-CSDF-01) Sample Description Forms. A separate KW-NSDF-01 or KW-CADF-01 form should be completed for each Sample. Up to 8 samples can be listed on a KCSS-SIF-01 form if they are used in the same Kinetworks[™] screen blot.
- For Section C, up to 3 probing antibodies (for proteins of diverse molecular weight*) are identified by
 providing the Kinexus ID Code from the Table of Antibody Targets provided in Appendix H. If the
 customer wishes to substitute a Kinexus antibody with one or more antibodies of their own, they must
 indicate this and enter the name they have chosen for this antibody from Box B of a Client Supplied
 Antibody Description Form (KW-CADF-01). A separate KW-CADF-01 form should be completed for
 each antibody.

*Kinexus will notify you if there is a conflict with the molecular weights of any of the 3 target proteins chosen. There should be at least 10-15 KDa difference between each of the proteins if the molecular masses are lower than 50 KDa, at least 25 KDa for molecular masses between 50 KDa and 100 KDa,, and no more than one target protein should have a molecular mass exceeding 100 KDa. Also, sometimes there are cross reactivity issues based on the performance of individual antibodies that may conflict with one of the target proteins of interest. We will advise you of this if we have previous experience in this regard.

• In Section D, the level of confidentiality and number of antibodies is indicated for correct pricing The form is certified correct and signed and dated

D. Sample and Antibody Description Forms

Client Supplied Non-confidential Sample Description Form (KW-NSDF-01) Client Supplied Confidential Sample Description Form (KW-CSDF-01)

For the cell/tissue lysate samples submitted, please ensure the following:

• Each sample tube is labeled and properly identified on the form in Section B, including final concentration and volume

- In Section A, the customer must enter the unique Client Screen Identification Name from Box A of the Service Identification Forms (KWS-SIF-01, KCPS-SIF-01 or KCSS-SIF—01) to match the sample to the particular Kineworks[™] service to be used to analyze this sample. Also provide the name of the type of Kinetworks[™] (e.g. KPSS-1.3, KCPS-1.0, KCSS-1.0).
- Your sample is described by completion of Client Supplied Non-Confidential (KW-NSDF-01) or Confidential (KW-CSDF-01) Sample Description Forms by checking the appropriate boxes and entering the appropriate information requested in Sections A-K for Non-confidential samples and Sections A-C for Confidential samples
- The form is certified correct and signed and dated
- Note that the information provided on this form will be shared with thousands of other scientists in the future with the Non-confidentiality pricing. In the spirit of collegiality, please be as accurate as possible in completing the KW-NSDF-01 form in order not to handicap their research efforts should they desire to follow up on your Kinetworks[™] results.

Client Supplied Antibody Description Form (KW-CADF-01)

For the antibody samples submitted, please ensure the following:

- Each antibody sample tube is labeled and properly identified on the form in Section B, including final concentration and volume and recommended dilution of the antibody for Western blotting
- In Section A, the customer must enter the unique Client Screen Identification Name from Box A of the Service Identification Forms (KCPS-SIF-01 or KCSS-SIF—01) to match the antibody to the particular Kineworks[™] service to be used to analyze withthis antibody. Also provide the name of the type of Kinetworks[™] (i.e. KCPS-1.0 or KCSS-1.0 only).
- Your sample is described by completion of Client Supplied Antibody Description Form (KW-CADF-01) by checking the appropriate boxes and entering the appropriate information requested in Sections A-F for Non-confidential samples and Sections A-C for Confidential samples
- In Section F, you may use the single amino acid or other standard abbreviations for the amino acid residues starting from the N-terminus of the peptide. If an amino acid is covalently modified (e..g. phosphorylation), please indicate this.
- The form is certified correct and signed and dated

E. Airway bill for Federal Express or any other preferred courier

Complete a Federal Express airway bill and specify:

- FedEx priority overnight delivery
- The samples may be sent in a FedEx letter and at room temperature if they are boiling in SDS-Sample Buffer
- Do not specify Saturday delivery or hold at FedEx Location
- Telephone 1-800-GO-FEDEX or visit them online at <u>www.fedex.com</u> or <u>www.fedex.ca</u> to schedule a pick up or complete your forms
- For shipments coming from within Canada or the United States, please ship any day from Monday to Thursday. Do not ship on Friday.

- For international shipments coming from outside of North American, the best day to ship is on Monday to ensure arrival in Canada for delivery later the same week
- It is recommended that customers e-mail the date of your shipment and the Federal Express Airway Bill
 number to Kinexus at <u>info@kinexus.ca</u> to ensure we can track your package should it get held up in
 Canadian Customs
- For any customer located outside of Canada, 3 copies of a commercial invoice is required to accompany your shipment (see below)

FOR INTERNATIONAL CUSTOMERS ONLY

F. Commercial Invoice (not required by Canadian customers)

Please complete the attached commercial invoice with the following information:

- Date of exportation
- Shipper/Exporter name, address, phone number
- Country of export/Country of origin
- Federal Express or other courier airway bill number
- Number, type and total weight of package(s)
- Total declared value of shipment (number of samples x \$1.00 per sample) and please specify currency
- Date, name, signature, and title of authorized person

Include three (3) copies of the commercial invoice with the airway bill

NOTE: Do not change the value of your shipment to more than \$1.00 per sample (or \$100 total value) as this will prompt the custom brokers to charge Kinexus with a duty and GST fee on your package. Since the samples are processed internally and not returned to the customer or resold, there is no real commercial value.

The international air waybill is required for all international shipments between Canada and the rest of the world. It is also your customs declaration, which can possibly be used to clear your shipment through customs at the destination. The customs clearance process begins with the description of the air waybill. If the description is too vague or missing, customs authorities may select the shipment for further inspection. All customs paperwork, such as the commercial invoice, must have detailed commodity descriptions. A detailed description on the air waybill and other customs documentation will help speed up the clearance time and reduce your delivery time. In the event that Kinexus must travel to Canada Customs to retrieve a sample package due to inadequate completion of the commercial invoice, then additional charges may apply.



Appendix A

KINETWORKS[™] SAMPLE BUFFER PROTOCOL

SPECIFICATIONS

Reagent	Volume of Stock	[4X Sample Buffer]
100 % Glycerol	5.00 ml	50 %
1 M Tris-HCl, pH 6.8	1.25 ml	125 mM
20 % SDS	2.00 ml	4 %
1% Bromophenol blue	0.80 ml	0.08 %
Distilled Water	0.45 ml	-
$^{*}eta$ -mercaptoethanol	0.50 ml	5 %
Total Volume	10.00 ml	

INSTRUCTIONS FOR USE

1) Prepare 4X SDS-PAGE Sample Buffer

Prepare the 4X SDS-PAGE Sample Buffer according to the specifications described above (the volume can be adjusted as required). The SDS-PAGE Sample Buffer can be stored at ambient temperature for up to 1 year but for best results, do not store 4X SDS-PAGE Sample Buffer with the β -mercaptoethanol.

2) Adding Reducing Agent

Add 50 μ l of β -mercaptoethanol per 950 μ l of 4X SDS-PAGE Sample Buffer for a final concentration of 5% β -mercaptoethanol in the 4X stock. Add the * β -mercaptoethanol to the 4X SDS-PAGE Sample Buffer just before mixing with the protein Sample.

3) Sample Dilution Ratio: 1 part 4X SDS-PAGE Sample Buffer to 3 parts Sample

The volume of 4X SDS-PAGE Sample Buffer to add is 25% of the total final volume.

The KPSS-1.3, 10.1, 11.0 and 12.1 require at least 500 μ g of protein. More protein is desirable if possible in case of unforeseen problems. Based on the formula (C₁V₁ = C₂V₂), at a protein concentration of 1.85 mg/ml, 270 μ l of protein is required to obtain 500 μ g with the addition of 125 μ l of 4X SDS-PAGE Sample Buffer and 105 μ l of phosphate-buffered saline (PBS) or Lysis Buffer, for a total volume of 500 μ l (see Example 1).

Screen	Example 1	Example 2		
Protein required (µg)	500 µg @ 1 mg/ml	750 µg @ 1 mg/ml		
Sample concentration	1.85 mg/ml	2.80 mg/ml		
Volume required	270 µl	268 µl		
4X Sample Buffer	125 µl	188 µl		
PBS or Lysis Buffer	105 µl	294 µl		
Total Volume	500 µl	750 µl		

For all screens, the lowest protein concentration acceptable of the cell/tissue samples in SDS-PAGE Sample Buffer is 0.6 mg/ml and the maximum protein concentration is 2.0 mg/ml

Prepare samples by heating in a boiling water bath for 4 minutes at 100 °C. The sample should be shipped in a 1.5ml Eppendorf *screw cap* vial, clearly labeled with an indelible marker for its identification, and parafilmed to prevent accidental opening or leaking.



Appendix B

KINETWORKS[™] PHOSPHO-SITE BROAD COVERAGE PATHWAY SCREEN Catalog Number - KPSS 1.3

KPSS-1.3 tracks the following thirty-eight (38) phosphorylation sites in phosphoproteins with antibodies that recognize phosphorylated epitopes:

No.	Abbreviation	Full Name of Protein	Epitope(s)
1.	Adducin α	Adducin alpha (ADD1)	S726
2.	Adducin y	Adducin gamma (ADD3)	S693
3.	B23 [NPM]	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	S4
4.	CDK1/2	Cyclin-dependent protein-serine kinase 1/2	Y15
5.	CREB1	cAMP response element binding protein 1	S133
6.	Erk1	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	T202+Y204
7.	Erk2	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	T185+Y187
8.	GSK3α	Glycogen synthase-serine kinase 3 alpha	S21
9.	GSK3α	Glycogen synthase-serine kinase 3 alpha	Y279
10.	GSK3β	Glycogen synthase-serine kinase 3 beta	S9
11.	GSK3β	Glycogen synthase-serine kinase 3 beta	Y216
12.	JNK	Jun N-terminus protein-serine kinase	
		(stress-activated protein kinase (SAPK)) 1/2/3	T183+Y185
13.	Jun	Jun proto-oncogene-encoded AP1 transcription factor	S73
14.	MEK1/2 [MAP2K1/2]	MAPK/ERK protein-serine kinase 1/2 (MKK1/2)	S217+S221
15.	MEK3/6 [MAP2K3/6]	MAP kinase protein-serine kinase 3/6 (MKK3/6)	S189/S207
16.	MEK6 [MAP2K6]	MAP kinase protein-serine kinase 6 (MKK6)	S207
17.	Msk1	Mitogen- and stress-activated protein-serine kinase 1	S376
18.	NR1	N-methyl-D-aspartate (NMDA) glutamate receptor 1 subunit zeta	S896
19.	р38 $lpha$ МАРК	Mitogen-activated protein-serine kinase p38 alpha	T180+Y182
20.	PKBα [Akt1]	Protein-serine kinase B alpha (Akt1)	T308
21.	PKBα [Akt1]	Protein-serine kinase B alpha (Akt1)	S473
22.	ΡΚϹα	Protein-serine kinase C alpha	S657
23.	ΡΚϹα/β2	Protein-serine kinase C alpha/beta 2	T638/T641
24.	ΡΚϹδ	Protein-serine kinase C delta	T507
25.	ΡΚϹε	Protein-serine kinase C epsilon	S729
26.	PKR	Double-stranded RNA-dependent protein-serine kinase	T451
27.	Raf1	Raf 1proto-oncogene-encoded protein-serine kinase	S259
28.	Rb	Retinoblastoma-associated protein	S780
29.	Rb	Retinoblastoma-associated protein	S807+S811
30.	RSK1/3	Ribosomal S6 protein-serine kinase 1/3	T359+S363/ T356+S360
31.	S6K2 p85	p85 ribosomal protein-serine S6 kinase 2	T412
32.	S6Kα p70	p70 ribosomal protein-serine S6 kinase alpha	T389
33.	Smad1/5/9	SMA- and mothers against decapentaplegic homologs 1/5/9	S463+S465/S463+ S465/S465+S467
34.	Src	Src proto-oncogene-encoded protein-tyrosine kinase	Y418
35.	Src	Src proto-oncogene-encoded protein-tyrosine kinase	Y529
36.	STAT1	Signal transducer and activator of transcription 1	Y701
37.	STAT3	Signal transducer and activator of transcription 3	S727
38.	STAT5	Signal transducer and activator of transcription 5	Y694

Y = tyrosine S = serine T = threonine



Appendix C

KINETWORKS[™] PHOSPHO-SITE CELL CYCLE STATUS SCREEN

Catalog Number - KPSS 10.1

KPSS-10.1 tracks the following forty-four (44) phosphorylation sites in phosphoproteins with antibodies that recognize phosphorylated epitopes:

No.	Abbreviation	Full Name of Protein	Epitope(s)
1.	B23 [NPM]	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	S4
2.	B23 [NPM]	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	T199
3.	B23 [NPM]	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	T234
4.	BRCA1	Breast cancer type 1 susceptibility protein	S1497
5.	CDK1/2	Cyclin-dependent protein-serine kinase 1/2	Y15
6.	CDK1/2	Cyclin-dependent protein-serine kinase 1/2	T14+Y15
7.	CDK1/2	Cyclin-dependent protein-serine kinase 1/2	T161/T160
8.	Erk1	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	T202+Y204
9.	Erk2	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	T185+Y187
10.	GSK3α	Glycogen synthase-serine kinase 3 alpha	S21
11.	GSK3α	Glycogen synthase-serine kinase 3 alpha	Y279
12.	GSK3β	Glycogen synthase-serine kinase 3 beta	S9
13.	GSK3β	Glycogen synthase-serine kinase 3 beta	Y216
14.	MEK1 [MAP2K1]	MAPK/ERK protein-serine kinase 1 (MKK1)	T291
15.	MEK1 [MAP2K1]	MAPK/ERK protein-serine kinase 1 (MKK1)	S297
16	MEK1 [MAP2K1]	MAPK/ERK protein-serine kinase 1 (MKK1)	T385
17	MEK1/2 [MAP2K1/2]	MAPK/ERK protein-serine kinase 1 (MKK1/2)	S217/S221
18	MEK2 [MAP2K2]	MAPK/ERK protein-serine kinase 2 (MKK2) (human)	T394
10.	MEK2 [MΔP2K2]	MAPK/ERK protein-serine kinase 2 (MKK2) (mouse)	T394
20	mTOR	Mammalian target of ranamycin (ERAP)	S2448
20. 21	n27 Kin1	n27 cvclin-dependent kinase inhibitor 1B	T187
22	n53	Tumor suppressor p53 (antigenNY-CQ-13)	S392
23	PDK1	3-Phosphoinositide-dependent protein-serine kinase 1	S244
24	PKBa [Akt1]	Protein-serine kinase B alpha (Akt-1)	T308
25	PKBα [Δkt1]	Protein-serine kinase B alpha (Akt-1)	S473
20. 26		Phosphatidylinositol-3.4.5-trisphosphate 3-phosphatase and protein	S380+S382+S385
20.		phosphatase and tensin homolog deleted on chromosome 10	0000-0002-0000
27	Raf1	Raf1 proto-oncogene-encoded protein-serine kinase	\$259
28	Rh	Retinoblastoma-associated protein 1	T356
29	Rb	Retinoblastoma-associated protein 1	S612
30	Rh	Retinoblastoma-associated protein 1	S780
31	Rb	Retinoblastoma-associated protein 1	S807
32	Rb	Retinoblastoma-associated protein 1	S807+S811
33.	Rb	Retinoblastoma-associated protein 1	T821
34.	Rb	Retinoblastoma-associated protein 1	T826
35.	RSK1/2	Ribosomal S6 protein-serine kinase 1/2	S221/S227
36.	RSK1/2	Ribosomal S6 protein-serine kinase 1/2	S363/S369
37.	RSK1/2	Ribosomal S6 protein-serine kinase 1/2	S380/S386
38.	S6	40S ribosomal protein S6	S235
39.	S6Kα p85	p85 ribosomal protein-serine S6 kinase 2	T252
40.	S6Kα p70	p70 ribosomal protein-serine S6 kinase-alpha	T229
41	S6Ka p85	p85 ribosomal protein-serine S6 kinase 2	T444/S447
42.	S6Kα p70	p70 ribosomal protein-serine S6 kinase alpha	T421/S424
43.	Src	Src proto-oncogene-encoded protein-tyrosine kinase	Y418
44.	Src	Src proto-oncogene-encoded protein-tyrosine kinase	Y529
Y = tyro	sine $S = serine$ $T = th$	reonine	



Appendix D

KINETWORKS[™] PHOSPHO-SITE PROTEIN KINASE SCREEN Catalog Number - KPSS 11.0

KPSS-11.0 tracks the following thirty-seven (37) phosphorylation sites in phosphoproteins with antibodies that recognize phosphorylated epitopes:

No.	Abbreviation	Full Name of Protein	Epitope(s)
1.	EGFR	Epidermal growth factor receptor-tyrosine kinase	Y1148
2.	ErbB2	ErbB2(HER2,neu) receptor-tyrosine kinase	Y1248
3.	Erk1	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	T202+Y204
4.	Erk2	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	T185+Y187
5.	Erk5	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK1))	T218+Y220
6.	FAK	Focal adhesion protein-tyrosine kinase	S910
7.	FAK	Focal adhesion protein-tyrosine kinase	Y397
8.	FAK	Focal adhesion protein-tyrosine kinase	S722
9.	FAK	Focal adhesion protein-tyrosine kinase	S843
10.	GRK2 [BARK1]	G protein-coupled receptor-serine kinase-2 (BARK1)	S670
11.	IR [INSR]	Insulin receptor	Y999
12.	IR/IGF1R [INSR/IGF1R]	Insulin receptor/Insulin like growth factor 1 receptor	Y1189/Y1190
13.	JNK	Jun N-terminus protein-serine kinases	T183/Y185
		(stress-activated protein kinase (SAPK)) 1/2/3	
14.	Kit	Kit/Steel factor receptor-tyrosine kinase	Y703
15.	Lyn	Yes-related protein-tyrosine kinase	Y507
16.	ρ38α ΜΑΡΚ	Mitogen-activated protein-serine kinase p38 alpha	T180+Y182
17.	PAK1/2/3	p21-activated serine kinase 1/2/3	S144/S141/S139
18.	ΡΚΑ C α/β	cAMP-dependent protein-serine kinase catalytic subunit alpha/beta	T197
19.	ΡΚΑ Ϲβ	cAMP-dependent protein-serine kinase catalytic subunit beta	S338
20.	ΡΚϹα	Protein-serine kinase C alpha	S657
21.	ΡΚϹα/β2	Protein-serine kinase C alpha/beta 2	T638/T641
22.	ΡΚC β1&2	Protein-serine kinase C beta 1/2	T500
23.	ΡΚϹβ2	Protein-serine kinase C beta 2	T641
24.	ΡΚϹγ	Protein-serine kinase C gamma	T514
25.	ΡΚϹγ	Protein-serine kinase C gamma	T674
26.	ΡΚϹγ	Protein-serine kinase C gamma	T655
27.	ΡΚϹδ	Protein-serine kinase C delta	S664
28.	ΡΚϹδ	Protein-serine kinase C delta	Y313
29.	ΡΚϹε	Protein-serine kinase C epsilon	S729
30.	ΡΚϹζ/λ	Protein-serine kinase C zeta/lambda	T410/T403
31.	PKCŋ	Protein-serine kinase C eta	S674
32.	- PKCμ (PKD)	Protein-serine kinase C mu (Protein Kinase D)	S738+S742
33.	PKCu (PKD)	Protein-serine kinase C mu (Protein Kinase D)	S910
34.	PKR	Double stranded RNA dependent protein-serine kinase	T451
35.	PRK1 [PKN1]	Protein kinase C-related protein-serine kinase 1	T774
36.	PRK2 [PKN1]	Protein kinase C-related protein-serine kinase 2	T816
37.	Pyk2	Protein-tyrosine kinase 2	Y579

Y = tyrosine S = serine

T = threonine



Appendix E

KINETWORKS[™] PHOSPHO-SITE SUBSTRATES OF KINASE SCREEN Catalog Number - KPSS 12.1

KPSS-12.1 tracks the following forty (40) phosphorylation sites in phosphoproteins with antibodies that recognize phosphorylated epitopes:

No.	Abbreviation	Full Name of Protein	Epitope(s)
1.	4E-BP1	Eukaryotic translation initiation factor 4E binding protein 1 (PHAS1)	S65
2.	AcCoA Carboxylase	Acetyl coenzyme A carboxylase	S80
3.	Adducin α	Adducin alpha (ADD1)	S726
4.	Adducin y	Adducin gamma (ADD3)	S693
5.	ATF2	Activating transcription factor 2 (CRE-BP1)	T51+T53
6.	BLNK	B-cell linker	Y84
7.	Cofilin 1	Cofilin 1	S3
8.	Cortactin	Cortactin (amplaxin) (mouse)	Y470
9.	CREB1	cAMP response element binding protein 1	S133
10.	Dok2	Docking protein 2 (mouse)	Y139
11.	elF2α	Eukaryotic translation initiation factor 2 alpha	S51
12.	elF4E	Eukaryotic translation initiation factor 4 (mRNA cap binding protein)	S209
13.	elF4γ	Eukaryotic translation initiation factor 4 gamma, 1	S1107
14.	Erk1	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	T202+Y204
15.	Erk2	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	T185+Y187
16.	FKHRL1	Forkhead-like transcription factor (FOXO3A)	T32
17.	Hsp27	Heat shock 27 kDa protein beta 1 (HspB1)	S15
18.	Hsp27	Heat shock 27 kDa protein beta 1 (HspB1)	S78
19.	Hsp27	Heat shock 27 kDa protein beta 1 (HspB1)	S82
20.	Huntingtin	Huntington's disease protein	S421
21.	Jun	Jun proto-oncogene-encoded AP1 transcription factor	S73
22.	MARCKS	Myristoylated alanine-rich protein kinase C substrate	S158+S162
23.	NMDAR2B	N-methyl-D-aspartate (NMDA) glutamate receptor 2B subunit	Y1474
24.	NR1	N-methyl-D-aspartate (NMDA) glutamate receptor 1 subunit zeta	S896
25.	Paxillin 1	Paxillin 1	Y31
26.	Paxillin 1	Paxillin 1	Y118
27.	Pax2	Paired box protein 2	S394
28.	PRAS40	Proline-rich Akt substrate 40 kDA (Akt1S1)	T246
29.	Rac1/cdc42	Ras-related C3 botulinum toxin substrate 1	S71
30.	Rad 17	RAD17 homolog	S645
31.	Shc1	SH2 domain-containing transforming protein 1	Y349+Y350
32.	SOX9	SRY (sex determining region Y)-box 9	S181
		(campomelic dysplasia, autosomal sex-reversal)	
33.	STAT1	Signal transducer and activator of transcription 1	Y701
34.	STAT3	Signal transducer and activator of transcription 3	S727
35.	STAT3	Signal transducer and activator of transcription 3	Y705
36.	Synapsin 1	Synapsin 1 isoform la	S9
37.	Tau	Microtubule-associated protein tau	S515
38.	Tau	Microtubule-associated protein tau	S515/S518
39.	Tau	Microtubule-associated protein tau	T547
40.	Tau	Microtubule-associated protein tau	S712
Y = tyre	osine S = serine	T = threonine	

Appendix F. List of Antibodies Available for Use With Kinexus Proteomics Services



Date: 2015 March 15

Target Protein	Phospho Site	Full Target Protein Name	Antibody Codes	Antibody	Antibody
Name	(Human)	J		Type	Source
4E-BP1	Pan-specific	Eukaryotic translation initiation factor 4E binding protein 1 (PHAS1)	NN166	RpAb	External
4E-BP1	S65	Eukaryotic translation initiation factor 4E binding protein 1 (PHAS1)	PN001	RpAb	External
4E-BP1	T45	Eukaryotic translation initiation factor 4E binding protein 1 (PHAS1)	PN114	RpAb	External
4G10	pTyr	Phosphotyrosine (Clone 4G10)	CN005	MmAb	External
A-Raf	Pan-specific	A-Raf proto-oncogene serine/threonine-protein kinase	NK205-4	RpAb	Kinexus
A-Raf	Pan-specific	A-Raf proto-oncogene serine/threonine-protein kinase	NK205-5	RpAb	Kinexus
A-Raf	Pan-specific	A-Raf proto-oncogene serine/threonine-protein kinase	NK205-2	RpAb	External
A-Raf	Y302	A-Raf proto-oncogene serine/threonine-protein kinase	PK500	RpAb	Kinexus
A6r	Y309	Twinfilin-2	PK502	RpAb	Kinexus
AAK1	S637	AP2-associated protein kinase 1	PK503	RpAb	Kinexus
Abl	Pan-specific	Abelson proto-oncogene-encoded protein-tyrosine kinase	NK001-2	RnAh	Kinexus
Abl	Pan-specific	Abelson proto-oncogene-encoded protein-tyrosine kinase	NK001	MmAb	External
		Abelson proto-oncogene-encoded protein-tyrosine kinase	PK001	PnAb	External
	670		DNI002	DpAb	External
	Den enecifie			RpAb DrAb	External
	Pan-specific	Activated CDC42 kinase 1	NK002	RPAD	External
ACTA1 (Alpha -actin	Pan-specific	Actin, alpha skeletal muscle	CN001	GpAb	External
Adducin a/g	S662	Adducin alpha (ADD1)	PN003-PN004	RpAb	External
AIF	Pan-specific	Apoptosis inducing factor (programed cell death protein 8 (PDCD8))	NN002	GpAb	External
AK2	Pan-specific	Adenylate kinase 2	NN003	RpAb	External
Akt1 (PKBa)	Pan-specific	RAC-alpha serine/threonine-protein kinase	NK129-3	RpAb	Kinexus
Akt1 (PKBa)	Pan-specific	RAC-alpha serine/threonine-protein kinase	NK129-5	RpAb	Kinexus
Akt1 (PKBa)	Pan-specific	RAC-alpha serine/threonine-protein kinase	NK129	MmAb	External
Akt1 (PKBa)	S473	RAC-alpha serine/threonine-protein kinase	PK072-3	RpAb	External
Akt1 (PKBa)	S473	RAC-alpha serine/threonine-protein kinase	PK072-5	RpAb	External
Akt1 (PKBa)	S473	RAC-alpha serine/threonine-protein kinase	PK072-1	RpAb	External
Akt1 (PKBa)	Y326	RAC-alpha serine/threonine-protein kinase	PK517	RpAb	Kinexus
Akt1 (PKBa)	Y474	RAC-alpha serine/threonine-protein kinase	PK148	RpAb	External
Akt2 (PKBb)	Pan-specific	RAC-beta serine/threonine-protein kinase	NK130-6	GnAb	External
Akt2 (PKBb)	Pan-specific	PAC-beta serine/threonine_protein kinase	NK130-7	GnAb	External
Akt2 (PKBb)	Pan-specific	PAC-beta serine/threonine-protein kinase	NK130-8	BnAh	Kinevus
Akt2 (PKBb)	Pan specific	BAC bota serine/threenine protein kinase	NK130.0	Pn/h	Kinexus
	Pan specific	RAC-beta serine/threenine-protein kinase	NK130-3	RpAb BpAb	Kinoxus
AKIZ (FKDU)	Pan-specific		NK 130-4	RpAb DpAb	Kinexus
AKIS (PKDY)	Pan-specific	RAC-gamma senne/threonine-protein kinase	NK 131-3	RPAD	Futernal
ALK	Pan-specific	Anaplastic lymphoma kinase	NK003	RPAD	External
ALK	¥1507	Anaplastic lymphoma kinase	PK520	RPAD	Kinexus
AMPKa2	\$377	5'-AMP-activated protein kinase catalytic subunit alpha-2	PK522	RpAb	Kinexus
ANKRD3	S438	Ankyrin repeat domain protein-serine kinase 3 (RIPK4, DIK)	PK523	RpAb	Kinexus
ANXA2	Y238	Annexin A2	PN504	RpAb	Kinexus
APG1	Pan-specific	Hsp 70-related heat shock protein 1 (osmotic stress protein 94 (OSP94	NN004	RpAb	External
APG2	Pan-specific	Hsp 70-related heat shock protein 4 (HSP70RY)	NN122	RpAb	External
APP	T743	Amyloid beta A4 protein	PN189	RpAb	External
Arrestin b	Pan-specific	Arrestin beta 1	NN121	MmAb	External
Arrestin b	S412	Arrestin beta 1	PN133	RpAb	External
ASK1	Pan-specific	Apoptosis signal regulating protein-serine kinase 1	NK007-2	RpAb	External
ASK1	Pan-specific	Apoptosis signal regulating protein-serine kinase 1	NK007	RpAb	External
ASK1	S966	Apoptosis signal regulating protein-serine kinase 1	PK143	RpAb	External
ATF2	S94/S112	Activating transcription factor 2 (CRE-BP1)	PN115	RpAb	External
ATF2	T69+T71	Activating transcription factor 2 (CRF-BP1)	PN006-1	RpAb	External
AurKA	Pan-specific	Aurora Kinase A (serine/threonine protein kinase 6)	NK008-4	RpAb	Kinexus
AurKA	Pan-specific	Aurora Kinase A (serine/threonine protein kinase 6)	NK008-5	RnAh	Kinexus
Διικά	Pan-specific		NK008-3	RnAh	Kinevue
AurKB	Dan encoific	Aurora Kinase A (serine/threenine protein kinase 10)	NK102 2	Dn/h	Kineyue
	Pan anoific	Aurora Kinase D (serine/threenine protein kinase 12)	NIC 190-0	Doth	Kinovuo
		Aurora Kinase B (serine/threonine protein kinase 12)	NR 193-4	RPAD	Kinexus
AUINB	Pan-specific	Aurora Kinase B (serine/threonine protein kinase 12)	NK 193-2	RPAD	Kinexus
AUIKB	5227	Aurora Kinase B (serine/threonine protein kinase 12)	PK530	RpAb	Kinexus
AurKC	Pan-specific	Aurora Kinase C (serine/threonine-protein kinase 13)	NK009-2	RpAb	Kinexus
B-Raf	Pan-specific	RafB proto-oncogene-encoded protein-serine kinase	NK156-4	RpAb	Kinexus

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
B-Raf	Pan-specific	RafB proto-oncogene-encoded protein-serine kinase	NK156-5	RpAb	Kinexus
B-Raf	Pan-specific	RafB proto-oncogene-encoded protein-serine kinase	NK156	RpAb	External
B-Raf	S446+S447	RafB proto-oncogene-encoded protein-serine kinase	PK534	RpAb	Kinexus
B-Raf	S729	RafB proto-oncogene-encoded protein-serine kinase	PK535	RpAb	Kinexus
B23 (NPM)	T234/237	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	PN009	RpAb	External
B23 (NPM)	T199	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	PN008	RpAb	External
Bak	Pan-specific	Bcl2 homologous antagonist/killer (BCK2L7)	NN000	RpAb	External
Bax	Pan-specific	Apontosis regulator Bcl2-associated X protein	NN005	RnAb	External
BCKD (BCKDK)	Pan-specific	[3-methyl-2-oxobutanoate debydrogenase [linoamide]] kinase mitochou	NK257-1	RnAb	Kinexus
BCI	Pan-specific	B-cell lymphoma protein 2 alpha	NN006-1	RnAb	External
Bol-XI	Pan-specific	Bol2-like protein 1	NN007	MmAb	External
Bol-vS/I	Pan-specific	Bel2 like protein 1	NN008	Rn4h	External
Bol2	Pan specific	B coll lymphome protein 2 clobe	NN006	MmAb	External
Bor		B-cell lympholia protein 2 alpha	DK529	Do Ab	Kinovuo
Du	V177	Breakpoint cluster region protein	PK164	RpAb DpAb	External
	TI//	Breakpoint cluster region protein	PK104	RpAD CrAb	External
BIO	Pan-specific	BH3 interacting domain death agonist	NN009	GpAb	External
BLK	Y188	B lymphoid tyrosine kinase	PK542	RpAb	Kinexus
BLNK	Y84	B-cell linker protein	PN013	RpAb	External
BMX (Etk)	Pan-specific	Bone marrow X protein-tyrosine kinase	NK012	MmAb	External
BMX (Etk)	Y40	Bone marrow X protein-tyrosine kinase	PK003	RpAb	External
BRCA1	S1423	Breast cancer type 1 susceptibility protein	PN116	RpAb	External
BRCA1	S1497	Breast cancer type 1 susceptibility protein	PN014	RpAb	External
BRD2	Pan-specific	Bromodomain-containing protein-serine kinase 2	NK013	RpAb	External
BRSK1	T189	BR serine/threonine-protein kinase 1	PK549	RpAb	Kinexus
Btk	Pan-specific	Bruton's agammaglobulinemia tyrosine kinase	NK014	RpAb	External
c-Cbl	Y700	Signal transduction protein CBI	PN171	RnAb	External
CA9	Pan-specific	Carbonic anhydrase 9	NN174	RnAh	External
Caldesmon	\$780	Caldesmon	PN015	Rp/tb RpAb	External
Calacyin	Ban specific	Calesvin	NN126.2	RpAb DpAb	External
Calletiaulia			NN130-2	RpAb DrAb	External
	Pan-specific		NIN 137-1	RPAD	External
	Pan-specific	Calcium/calmodulin-dependent protein-serine kinase 1 delta	INKU 10-2	GPAD	External
CaMK2a	1286	Calcium/calmodulin-dependent protein-serine kinase 2 alpha	PK555	RpAb	Kinexus
CAMK2d	Pan-specific	Calcium/calmodulin-dependent protein-serine kinase 2 delta	NK019-2	RpAb	External
CaMK4	Pan-specific	Calcium/calmodulin-dependent protein-serine kinase 4	NK021-3	RpAb	External
CaMK4	T200	Calcium/calmodulin-dependent protein-serine kinase 4	PK556	RpAb	Kinexus
CamKl	Pan-specific	Calcium/calmodulin-dependent protein-serine kinase 1 alpha	NK211	GpAb	External
CaMKK	Pan-specific	Calcium/calmodulin-dependent protein-serine kinase kinase	NK022	RpAb	Kinexus
Cas-L	Y166	Enhancer of filamentation 1	PN505	RpAb	Kinexus
Caspase 1	Pan-specific	Caspase 1 (Interleukin-1 beta convertase)	NN011	RpAb	External
Caspase 3	Pan-specific	Caspase 3 (apopain, cysteine protease CPP32)	NN013	RpAb	External
Caspase 6	Pan-specific	Caspase 6 (apoptotic protease Mch2)	NN016	MmAb	External
Caspase 7	Pan-specific	Caspase 7 (ICE-like apoptotic protease 3 (ICE-LAP3), Mch3)	NN017-2	RpAb	External
Catenin a	S641	Catenin (cadherin-associated protein) alpha	PN162	RpAb	External
Catenin b	Pan-specific	Catenin (cadherin-associated protein) beta 1	NN021	RnAb	External
Catenin b	S33	Catenin (cadherin-associated protein) beta 1	PN166	RnAb	External
Catenin b	Y333	Catenin (cadherin-associated protein) beta 1	PN167	RnAh	External
Catenin b1	Pan-specific	Catenin (cadherin associated protein) beta 1	NN021-1	Rp/tb Rp4b	External
Caveolin 1	Pan-specific		NN167	RnAh	External
			DNI147	RpAb DpAb	External
	114		PIN 147	RPAD	External
	Pan-specific	Caveolin 2	NNU22-1	INIMAD	External
Caveolin 2	\$36	Caveolin 2	PN018	RPAD	External
CD45	Pan-specific	Leukocyte common antigen CD45 receptor-tyrosine phosphatase (LCA	NP001	MmAb	External
CD63	Pan-specific	CF63 Antigen	NN186	RpAb	External
Cdc2 p34	Pan-specific	Cyclin-dependent protein-serine kinase 1	NK025-6	RpAb	External
Cdc2 p34	Pan-specific	Cyclin-dependent protein-serine kinase 1	NK025-5	MmAb	External
Cdc25A	Pan-specific	Cell division cycle 25A phosphatase	NP038-2	RpAb	Kinexus
Cdc25A	Pan-specific	Cell division cycle 25A phosphatase	NP038-3	RpAb	Kinexus
Cdc25A	Pan-specific	Cell division cycle 25A phosphatase	NP038-1	RpAb	Kinexus
Cdc25B	Pan-specific	Cell division cycle 25B phosphatase	NP002-2	RpAb	Kinexus
Cdc25B	Pan-specific	Cell division cycle 25B phosphatase	NP002-3	RpAb	Kinexus
Cdc25B	Pan-specific	Cell division cycle 25B phosphatase	NP002	MmAh	External
Cdc25C	Pan-specific	Call division cycle 250 phosphataso	NP003-2	Rn∆h	Kinevue
Cdc25C	Pan encoific	Coll division evelo 250 phosphatase	NP003-2	RnAh	Kinevus
Cdo25C		Cell division cycle 250 phosphatase	ND002		External
000200	r an-specific	Cell division cycle 25C phosphatase	INF003	крар	External

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
Cdc2L5	Pan-specific	Cell division cycle 2-like protein-serine kinase 5	NK024	RpAb	External
Cdc34	Pan-specific	Cell division cycle 34 (ubiguitin-conjugating ligase)	NN023	MmAb	External
CDC42	Pan-specific	Cell division control protein 42 homolog	NN024	MmAb	External
CDC7	T376	Cell division cycle 7-related protein kinase	PK558	RnAb	Kinexus
	Pan-specific	Cyclin-dependent protein-serine kinase 1	NK025-2	MmAb	External
	Pan-specific	Cyclin-dependent protein-serine kinase 1	NK025-1	MmAb	External
	V10	Cyclin dependent protein serine kinase 1	DK563	PnAb	Kinevus
	V15	Cyclin-dependent protein-serine kinase 1	DK007.2	RpAb BpAb	Extornal
	V15	Cyclin-dependent protein-serine kinase 1/2	PK007-3	RpAb BpAb	External
				RpAb DrAb	External
	114/115	Cyclin-dependent protein-serine kinase 1/2		RPAD	External
	1 101	Cyclin-dependent protein-serine kinase 1/2	PK008-1	RPAD	External
CDKTIA	1583	Cell division cycle 2-like 2 protein kinase	PK505	RPAD	Kinexus
CDK2	Pan-specific	Cyclin-dependent protein-serine kinase 2	NK026-5	RpAb	External
CDK2	Pan-specific	Cyclin-dependent protein-serine kinase 2	NK026-6	RpAb	External
CDK2	Pan-specific	Cyclin-dependent protein-serine kinase 2	NK026-7	MmAb	External
CDK2	Pan-specific	Cyclin-dependent protein-serine kinase 2	NK026-3	MmAb	External
CDK4	Pan-specific	Cyclin-dependent protein-serine kinase 4	NK027-2	RpAb	External
CDK4	Pan-specific	Cyclin-dependent protein-serine kinase 4	NK027	MmAb	External
CDK4	T172	Cyclin-dependent protein-serine kinase 4	PK569	RpAb	Kinexus
CDK5	Pan-specific	Cyclin-dependent protein-serine kinase 5	NK028-4	RpAb	External
CDK5	Pan-specific	Cyclin-dependent protein-serine kinase 5	NK028-5	MmAb	External
CDK5	Pan-specific	Cyclin-dependent protein-serine kinase 5	NK028-2	RpAb	External
CDK6	Pan-specific	Cyclin-dependent protein-serine kinase 6	NK029-3	RpAb	External
CDK6	Pan-specific	Cyclin-dependent protein-serine kinase 6	NK029	MmAb	External
CDK6	Y13	Cyclin-dependent protein-serine kinase 6	PK165	RnAb	External
	Pan-specific	Cyclin-dependent protein-serine kinase 7	NK030-2	MmAb	External
	Pan-specific	Cyclin dependent protein serine kinase 7	NK031-5	GnAb	External
	Pan specific	Cyclin-dependent protein-serine kinase o	NK032	DpAb DpAb	External
	2247	Cyclin-dependent protein-serine kinase 9	DK574	RpAb BpAb	Kinovus
CDK9	T100	Cyclin-dependent protein-serine kinase 9	DV575	RpAb DpAb	Kinexus
	Den enecifie	Cyclin-dependent protein-senne kinase 9	PK375	RPAD	External
	Pan-specific		NKU34-2	RPAD	External
	Pan-specific	Checkpoint protein-serine kinase 1	NK034	MIMAD	External
Chk1	S280	Checkpoint protein-serine kinase 1	PK577	RpAb	Kinexus
Chk1	S280	Checkpoint protein-serine kinase 1	PK162	RpAb	External
Chk1	\$317	Checkpoint protein-serine kinase 1	PK578	RpAb	Kinexus
Chk1	S345	Checkpoint protein-serine kinase 1	PK579	RpAb	Kinexus
Chk2	Pan-specific	Checkpoint protein-serine kinase 2	NK035	RpAb	External
Chk2	168	Checkpoint protein-serine kinase 2	PK581	RpAb	Kinexus
Chk2	T68	Checkpoint protein-serine kinase 2	PK119	RpAb	External
CK1d	Pan-specific	Casein protein-serine kinase 1 delta	NK036	GpAb	External
CK1e	Pan-specific	Casein protein-serine kinase 1 epsilon	NK037-1	MmAb	External
CK2a	Pan-specific	Casein protein-serine kinase 2 alpha/ alpha prime	NK041	RpAb	Kinexus
CK2a	T360/S362	Casein protein-serine kinase 2 alpha/ alpha prime	PK167	RpAb	External
Cofilin	Pan-specific	Cofilin 1	NN026	MmAb	External
Cofilin 1	S3	Cofilin 1	PN019	RpAb	External
Cofilin 2	S3	Cofilin 2	PN020	RpAb	External
Connexin 43	S367	Gap junction alpha-1 protein	PN148	RpAb	External
Cortactin	Y466	Cortactin (amplaxin) (mouse)	PN022-2	RpAb	External
COT	Pan-specific	Osaka thyroid oncogene protein-serine kinase (Tpl2)	NK042-2	RpAb	Kinexus
сот	Pan-specific	Osaka thyroid oncogene protein-serine kinase (Tpl2)	NK042	RpAb	Kinexus
COX2	Pan-specific	Cyclo-oxygenase 2 (prostaglandin G/H synthase 2 precursor)	NN027	MmAb	External
CPG16/CaMKinase	Pan-specific	Serine/threenine-protein kinase DCAMKI 1	NK043	MmAb	External
CREB1	S133	cAMP response element hinding protein 1	PN024	RnAh	External
CREB1	\$120/\$133	cAMP response element binding protein 1	PN023	RpAb	External
$Crkl_{(32H4)}$	Pan-specific	Crk-like protein	NN120	MmAh	Fytornal
Crystallin aR	Pan encoific	Crystallin alpha R (heat-shock 20 kDa like protoin)	NIN102	MmAb	External
Crystallin aD	Dan ancoific	Crystallin alpha B (heat shock 20 kDa like protein)	NIN149-2	DoAh	Extornal
Crystallin aD	Fan-specific	Crystallin alpha D (heat shock 20 KDa like-protein)	DNI025		External
Crystallin aB	019	Crystallin alpha B (heat shock 20 KDa like-protein)			External
	040 Don on c -:f:	Crystallin alpha B (neat-snock 20 kDa like-protein)			External
	Pan-specific	iviacrophage colony-stimulating factor 1 receptor	NK234-3	RPAD Dr Al-	Kinexus
USFIR	1699 Dec. a	Macrophage colony-stimulating factor 1 receptor	PK58/	RPAD Dr. Al	Kinexus
USK	Pan-specific	C-terminus of Src tyrosine kinase	NK044-2	RpAb	External
Csk	Pan-specific	C-terminus of Src tyrosine kinase	NK044	MmAb	External
Cyclin A	Pan-specific	Cyclin A1	NN028	RpAb	External

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
Cyclin B1	Pan-specific	Cvclin B1	NN029	MmAb	External
Cvclin B1	S147	Cyclin B1	PN190	RpAb	External
Cvclin D1	Pan-specific	Cvclin D1 (PRAD1)	NN030-1	RmAb	External
Cyclin E	Pan-specific	Cyclin E1	NN031	MmAb	External
Cyclin F	T395	Cyclin E1	PN191	RnAb	External
Cyclin G1	Pan-specific	Cyclin G1	NN032	RnAb	External
CvtoC	Pan-specific	Cytochrome C	NN033	RnAb	External
Dah1	V108		PN026	Rp/tb RpAb	External
	Pan-specific	Death-associated protein 6 (BING2)	NN034	Rp/tb RnAh	External
	V796+nV797	Enithelial discoidin domain containing recentor 1	PK501	Rp/tb RpAb	Kinevus
	Pan specific		NK210	PnAb	External
	Pan specific	Didcyigiyceiol killase zela	NK219	RpAb BpAb	External
		DNA-activated protein-serine kinase	DK505	RpAb BpAb	Kinovuo
	12009 V142	DivA-activated protein-serine kinase	PN027.2	RpAb DpAb	External
Dok2	¥ 142	Docking protein 2	PN027-2	RPAD	External
DOK2	¥ 142	Docking protein 2	PN027	RpAb	External
DRAK2	Pan-specific	DAP kinase-related apoptosis-inducing protein-serine kinase 2 (STK1/	NK050	RpAb	External
DUSP1 (MKP1)	Pan-specific	MAP kinase phosphatase 1 (CL100, VH1)	NP006-2	RpAb	Kinexus
DUSP1 (MKP1)	Pan-specific	MAP kinase phosphatase 1 (CL100, VH1)	NP006-3	RpAb	Kinexus
DUSP1 (MKP1)	Pan-specific	MAP kinase phosphatase 1 (CL100, VH1)	NP006	RpAb	External
DUSP10	Pan-specific	Dual specificity protein phosphatase 10	NP047-2	RpAb	Kinexus
DUSP11	Pan-specific	Phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase 2	NP045-3	RpAb	Kinexus
DUSP11	Pan-specific	Phosphatidylinositol-3,4,5-trisphosphate 5-phosphatase 2	NP045-2	RpAb	Kinexus
DUSP12	Pan-specific	Dual specificity protein phosphatase 12	NP046-3	RpAb	Kinexus
DUSP12	Pan-specific	Dual specificity protein phosphatase 12	NP046-2	RpAb	Kinexus
DUSP2	Pan-specific	Dual specificity protein phosphatase 2	NP008-4	RpAb	Kinexus
DUSP2	Pan-specific	Dual specificity protein phosphatase 2	NP008-2	RpAb	Kinexus
DUSP3	Pan-specific	Dual specificity protein phosphatase 3	NP030-3	RnAh	Kinexus
DUSP3	Pan-specific	Dual specificity protein phosphatase 3	NP030-4	RnAh	Kinexus
	Pan specific	Dual specificity protein phosphatase 3	ND030 2	PnAb	Kinexus
	Pan specific	Dual specificity protein phosphatase 3	ND007 4	RpAb BpAb	Kinoxus
	Pan-specific	Dual specificity protein phosphatase 4	ND007-4	RpAb DpAb	Kinexus
DUSP4	Pan-specific	Dual specificity protein prosphatase 4	NP007-3	RPAD	Kinexus
DUSP5	Pan-specific	Dual specificity protein phosphatase 5	NP039-2	RpAb	Kinexus
DUSP6	Pan-specific	Dual specificity protein phosphatase 6	NP040-2	RpAb	Kinexus
DUSP6	Pan-specific	Dual specificity protein phosphatase 6	NP040-3	RpAb	Kinexus
DUSP6	Pan-specific	Dual specificity protein phosphatase 6	NP040-1	RpAb	Kinexus
DUSP7	Pan-specific	Dual specificity protein phosphatase 7	NP041-2	RpAb	Kinexus
DUSP7	Pan-specific	Dual specificity protein phosphatase 7	NP041-3	RpAb	Kinexus
DUSP7	Pan-specific	Dual specificity protein phosphatase 7	NP041-1	RpAb	Kinexus
DUSP8	Pan-specific	Dual specificity protein phosphatase 8	NP042-3	RpAb	Kinexus
DUSP9	Pan-specific	Dual specificity protein phosphatase 9	NP043-2	RpAb	Kinexus
eEF1A1	Y141	Elongation factor 1-alpha 1	PN509	RpAb	Kinexus
EFNA5	Pan-specific	Ephrin-A5	NN175	RpAb	External
EGFR	Pan-specific	Epidermal growth factor receptor-tyrosine kinase	NK052-4	RpAb	Kinexus
EGFR	Pan-specific	Epidermal growth factor receptor-tyrosine kinase	NK052-5	RpAb	Kinexus
EGFR	Pan-specific	Epidermal growth factor receptor-tyrosine kinase	NK052-6	RpAb	Kinexus
EGFR	Pan-specific	Epidermal growth factor receptor-tyrosine kinase	NK052-1	RpAb	External
EGFR	Y1148	Epidermal growth factor receptor-tyrosine kinase	PK010-2	RpAb	External
EGFR	T693	Epidermal growth factor receptor-tyrosine kinase	PK121	RpAb	External
EGFR	Y1068	Endermal growth factor receptor-tyrosine kinase	PK122-1	RpAb	External
EGER	Y1110	Epidermal growth factor receptor tyrosine kinase	PK123	RnAh	External
EGER	V1148	Epidermal growth factor receptor tyrosine kinase	PK010	Rp/tb RpAb	External
EGER	V1107			RpAb BpAb	External
	11197	Epidemial growth factor receptor-tyrosine kinase		RpAb DrAb	Kinayuya
EGFR	1998	Epidermai growth factor receptor-tyrosine kinase	PK003	RPAD	Kinexus
eirza	Pan-specific	Eukaryotic translation initiation factor 2 alpha	NNU38-1	RPAD	External
el⊦2a	\$52	Eukaryotic translation initiation factor 2 alpha	PN028-2	RpAb	External
el⊦2a	S52	Eukaryotic translation initiation factor 2 alpha	PN028-1	RpAb	External
eIF4B	S422	Eukaryotic translation initiation factor 4B	PN172	RpAb	External
elF4E	Pan-specific	Eukaryotic translation initiation factor 4 (mRNA cap binding protein)	NN039-1	MmAb	External
elF4E	S209	Eukaryotic translation initiation factor 4 (mRNA cap binding protein)	PN030-2	RpAb	External
elF4E	S209	Eukaryotic translation initiation factor 4 (mRNA cap binding protein)	PN030-1	RpAb	External
elF4G	S1232	Eukaryotic translation initiation factor 4 gamma 1	PN193	RpAb	External
elF4G	S1108	Eukaryotic translation initiation factor 4 gamma 1	PN031	RpAb	External
Elk1	Pan-specific	ETS domain-containing protein Elk-1	NN168	RpAb	External
Elk1	S383	ETS domain-containing protein Elk-1	PN149	RpAb	External
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Target Protein	Phospho Site	Full Target Protein Name	Antibody Codes	Antibody	Antibody
Flk1	S389	ETS domain-containing protein Elk-1	PN170	RnAb	External
Encam	Pan-specific	Enithelial cell adhesion molecule	NN173	RpAb	External
Epcall EpbA1	Pan specific	Epitiellal cell adiesion molecule	NK053	PnAb	External
Ephrin P2		EDH related receptor 1 protein-tyrosine kinase	DNI172	RpAb BpAb	External
Ephilin-62 ErbB2	Den enceifie	Erh-leialeu leceptor tyrosine kinase liganu 5		RpAb DpAb	Kinovuo
	Pan-specific	ErbB2 (Neu) receptor-tyrosine kinase		RPAD	Kinexus
EIDB2	Pan-specific	ErbB2 (Neu) receptor-tyrosine kinase	NK054-5	RPAD	Kinexus
ErbB2	Pan-specific	ErbB2 (Neu) receptor-tyrosine kinase	NK054-2	RPAD	External
ErbB2	1686	ErbB2 (Neu) receptor-tyrosine kinase	PK134	RpAb	External
ErbB2	Y1248	ErbB2 (Neu) receptor-tyrosine kinase	PK013-1	RpAb	External
ErbB3	Pan-specific	Tyrosine kinase-type cell surface receptor HER3	NK231-3	RpAb	Kinexus
ErbB3	Pan-specific	Tyrosine kinase-type cell surface receptor HER3	NK231-2	RpAb	Kinexus
ErbB3	Y1328	Tyrosine kinase-type cell surface receptor HER3	PK163	RpAb	External
ErbB4	Pan-specific	Receptor tyrosine-protein kinase erbB-4	NK235-3	RpAb	Kinexus
ErbB4	Pan-specific	Receptor tyrosine-protein kinase erbB-4	NK235-1	RpAb	Kinexus
ERK1	Pan-specific	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	NK055-2	RpAb	Kinexus
FRK1	Pan-specific	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	NK055-3	RnAh	Kinexus
ERK1	Pan-specific	Extracellular regulated protein-serine kinase 1 (p11 M/4 MAP kinase)	NK055-1	RnAh	Kinevus
		Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)		DpAb	Kinexus
	374 T001V004	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	FK007	RpAb DrAb	Kinexus
	1202+1204	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	PK021	RPAD	Kinexus
	1207	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	PK865	R PAD	Kinexus
ERK1	Y204	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	PK864	RpAb	Kinexus
ERK1	Y204+T207	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase)	PK866	RpAb	Kinexus
ERK1/2	Pan-specific	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase) + Extr	NK055-NK056-2	RpAb	External
ERK1/2	Pan-specific	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase) + Extr	NK055-NK056	RpAb	External
ERK1/2	T202+T185	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase) + Extr	PK170-PK171	RpAb	External
ERK1/2	Y204+Y187	Extracellular regulated protein-serine kinase 1 (p44 MAP kinase) + Extr	PK168-PK169	RpAb	External
ERK2	Pan-specific	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	NK056-4	RpAb	Kinexus
ERK2	Pan-specific	Extracellular regulated protein-serine kinase 2 (p42 MAP kinase)	NK056-3	RpAb	Kinexus
FRK3	Pan-specific	Extracellular regulated protein-serine kinase 4	NK058	RnAh	External
ERK3	Pan-specific	Extracellular regulated protein-serine kinase 3	NK057-2	RnAh	External
	C106	Extracellular regulated protein-serine kinase 3	DK624	RpAb DpAb	Kinovuo
	Don oncoifio	Extracellular regulated protein-serine kinase 4	F K024	RpAb DpAb	Kinexus
ERK5	Pan-specific	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	NK206-4	RPAD	Kinexus
ERK5	Pan-specific	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	NK206-5	RpAb	Kinexus
ERK5	Pan-specific	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	NK206-3	GpAb	Kinexus
ERK5	T218+Y220	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	PK016-3	RpAb	External
ERK5	T219+Y221	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	PK625	RpAb	Kinexus
ERK5	Y221	Extracellular regulated protein-serine kinase 5 (Big MAP kinase 1 (BMK	PK626	RpAb	Kinexus
Estrongen Receptor	S104	Estrogen receptor alpha	PN198	RpAb	External
Ezrin	Y353	Cytovillin 2	PN175	RpAb	External
Ezrin	T567	Cytovillin 2	PN174	RpAb	External
FAK	Pan-specific	Focal adhesion protein-tyrosine kinase	NK060	RpAb	External
FAK	S722	Focal adhesion protein-tyrosine kinase	PK020-3	RpAb	External
FAK	Y397	Focal adhesion protein-tyrosine kinase	PK017-1	MmAb	External
FAK	\$722	Focal adhesion protein tyrosine kinase	PK020	RnAh	External
FAK	\$732	Focal adhesion protein tyrosine kinase	PK021	Rn ^A h	External
	S132			DnAb	External
	0910				External
	139/	Focal adnesion protein-tyrosine kinase	PKUI/	RPAD	
FAK	15/6+15//	Focal agnesion protein-tyrosine kinase	PK151	крАр	External
FAK	Y577	Focal adhesion protein-tyrosine kinase	PK629	RpAb	Kinexus
FAS	Pan-specific	Tumor necrosis factor superfamily member 6 (Apo1, CD95)	NN042	RpAb	External
FasL	Pan-specific	Tumor necrosis factor ligand, member 6	NN043	MmAb	External
Fes	Pan-specific	Fes/Fps protein-tyrosine kinase	NK061	RpAb	External
FGFR1	Pan-specific	Fibroblast growth factor receptor-tyrosine kinase 1	NK062-3	RpAb	Kinexus
FGFR1	Y653+Y654	Fibroblast growth factor receptor-tyrosine kinase 1	PK634	RpAb	Kinexus
FGFR2	Pan-specific	Fibroblast growth factor receptor-tyrosine kinase 2 (BEK)	NK063-3	RpAb	Kinexus
FGFR2	Pan-specific	Fibroblast growth factor receptor-tyrosine kinase 2 (BEK)	NK063-4	RpAb	Kinexus
FGFR2	Pan-specific	Fibroblast growth factor receptor-tyrosine kinase 2 (BEK)	NK063-2	RpAb	Kinexus
FGFR3	Pan-specific	Fibroblast growth factor recentor 3	NK236-3	Rn∆h	Kinevue
FGFR3	Pan-specific	Fibroblast growth factor receptor 3	NK236_2	Rn∆h	Kinevue
FGFR3	V647±V640	Fibroblast growth factor recentor 2	DK637	RnAh	Kinovuo
		Fibrobiast growth factor receptor 5	NN1470	Do	External
				RPAD Dr Al-	External
	5319	Forknead box protein O1	PN195	крАр	External
FKHR	S256	Forkhead box protein O1	PN194	RpAb	External
FIt3	Pan-specific	Receptor-type tyrosine-protein kinase FLT3	NK240-1	RpAb	Kinexus

Target Protein	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody	Antibody Source
Fos	Pan-specific	Fos-c FB I murine osteosarcoma onconrotein-related transcription facto	NN044	BnAh	External
Fos	T232	Fos-c FB I murine osteosarcoma oncoprotein-related transcription facto	PN033	RnAh	External
FRK	V387	Tyrosine-protein kinase EPK	PK641	RnAh	Kinevus
FRS2	V340	Fibroblast growth factor recentor substrate 2	PN146	RnAh	Evternal
Fvn	Pan-specific	Even proto-oncogene-encoded protein-tyrosine kinase	NK065	MmAb	External
Gab1	V627	CPP2 accorded binder 1	DN102	PnAb	External
	Pan specific	DNA damage inducible transcript 3 protein	NN163	MmAb	External
GADD 155 (CHOP)	Fail-specific		DNI106	DnAb	External
GAIAI	Dan specific		PIN 190	CpAb	External
GUK		Germinal centre protein-serine kinase		GpAb	External
	30		PINU34	DrAb	External
	5849		PN178	RPAD	External
	Pan-specific	Guanine nucleotide-binding protein beta (receptor for activated C kinas	NN045	RPAD	External
GRK2	Pan-specific	G protein-coupled receptor-serine kinase 2	NK067	RPAD	External
GRK2	5670	G protein-coupled receptor-serine kinase 2	PK025	RpAb	External
GroEL	Pan-specific	GroEL homolog (may correspond to Hsp60)	NN046	RpAb	External
Grp75	Pan-specific	Glucose regulated protein 75	NN047	MmAb	External
Grp78	Pan-specific	Glucose regulated protein 78	NN048-2	RpAb	External
Grp78	Pan-specific	Glucose regulated protein 78	NN048	RpAb	External
Grp94	Pan-specific	Glucose regulated protein 94 (endoplasmin)	NN049	RpAb	External
GSK3a	Y284+Y285	Glycogen synthase-serine kinase 3 alpha	PK650	RpAb	Kinexus
GSK3a	T19+pS21	Glycogen synthase-serine kinase 3 alpha	PK648	RpAb	Kinexus
GSK3a/b	Pan-specific	Glycogen synthase-serine kinase 3 alpha/beta	NK069-NK070-2	MmAb	External
GSK3a/b	Y279/Y216	Glycogen synthase-serine kinase 3 alpha/beta	PK028-PK029-1	RpAb	External
GTF2F1	S385+T389	General transcription factor IIF subunit 1	PK651	RpAb	Kinexus
Haspin	Pan-specific	Haploid germ cell-specific nuclear protein-serine kinase	NK071	RpAb	External
HDAC4	Pan-specific	Histone deacetylase 4	NN169	RpAb	External
HDAC4/5/9	S246/259/220	Histone deacetylase 4	N179-PN180-PN18	RpAb	External
HDAC5	S498	Histone deacetylase 5	PN188	RpAb	External
hHR23B	Pan-specific	UV excison repair protein RAD23 homolog B	NN050	MmAb	External
Hip	Pan-specific	Hsp70/Hsc70 interacting protein (ST13)	NN051	RpAb	External
Histone H2A.X	S139	Histone H2A variant X	PN036	MmAb	External
Histone H2B	S14	Histone H2B	PN037	RpAb	External
Histone H3	T3	Histone H3.3	PN101-2	RmAb	External
Histone H3	S28	Histone H3 3	PN039	RpAb	External
Histone H3	T11	Histone H3 3	PN100	RpAb	External
Histone H3	T3	Histone H3 3	PN101	RpAb	External
Histone H3	S10	Histone H3 3	PN038	RnAh	External
HO1	Pan-specific	Heme oxygenase 1	NN052	RnAh	External
	Pan-specific		NN053	RnAh	External
Hnk1	Pan-specific	Hematonoetic progenitor protein-serine kinase 1	NK072	GnAb	External
Hec70	Pan-specific	Heat shock 70 kDa protein 8	NN054-2	BnAh	External
Hsc70	Pan specific	Heat shock 70 kDa protein 8	NN054	MmAb	External
	Pan specific	Heat shock transpirition factor 4	NN055	MmAb	External
Hop105	Pan-specific	Heat shock transcription factor 4	NN055	DnAb	External
Hsp105	Pan-specific	Heat shock 105 kDa protein		RPAD	External
Hsp25		Heat shock 27 kDa protein beta 1 (HspB1)	ININ 152-1	RPAD	External
Hop27	30Z	Heat shock 27 kDa protein beta 1 (HSpB1)	FINU42-3	RPAD DoAb	External
	578	Heat shock 27 kDa protein beta 1 (HspB1)	PINU4 I	RPAD	External
	580	Heat shock 27 kDa protein beta 1 (HspB1)	PIN042-1	RPAD	External
Hsp27	515	Heat shock 27 kDa protein beta 1 (HspB1)	PN040-2	RPAD	External
Hsp40	Pan-specific	DnaJ homolog, subfamily B member 1	NN057-3	RPAD	External
Hsp40	Pan-specific	DnaJ homolog, subfamily B member 1	NN057-2	MmAb	External
HSp47	Pan-specific	Heat shock 47 kDa protein (collagen-binding protein 1, colligin 1)	NN058	MmAb	External
Hsp60	Pan-specific	Heat shock 60 kDa protein 1 (chaperonin, CPN60)	NN059-2	MmAb	External
Hsp60	Pan-specific	Heat shock 60 kDa protein 1 (chaperonin, CPN60)	NN059-3	MmAb	External
Hsp60	Pan-specific	Heat shock 60 kDa protein 1 (chaperonin, CPN60)	NN059-1	MmAb	External
Hsp70	Pan-specific	Heat shock 70 kDa protein 1	NN060-3	RpAb	External
Hsp70	Pan-specific	Heat shock 70 kDa protein 1	NN060-2	MmAb	External
Hsp90	Pan-specific	Heat shock 90 kDa protein alpha/beta	NN061-16	RpAb	External
Hsp90	Pan-specific	Heat shock 90 kDa protein alpha/beta	NN061	MmAb	External
Hsp90a	Pan-specific	Heat shock 90 kDa protein alpha	NN164	MmAb	External
hsp90b	Pan-specific	Heat shock 90 kDa protein beta	NN165-1	RpAb	External
Hsp90b	Pan-specific	Heat shock 90 kDa protein beta	NN165	MmAb	External
Hsp90b	S254	Heat shock 90 kDa protein beta	PN176	RpAb	External
HspBP1	Pan-specific	Hsp70 binding protein 1	NN063	MmAb	External
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Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
HSTK12 (Aurora 2)	Pan-specific	Aurora Kinase B (serine/threonine protein kinase 12)	NK193	RpAb	External
Huntinatin	S421	Huntington's disease protein	PN103	RpAb	External
I1PP2A (PHAPI)	Pan-specific	Acidic leucine-rich nuclear phosphoprotein 32 family member A	NN130	RpAb	External
I2PP2A (PHAPII)	Pan-specific	Protein SET	NN131	RpAb	External
IAP1	Pan-specific	Cellular inhibitor of apoptosis protein 1 (baculoviral IAP repeat-containing	NN025	RpAb	External
ICK	Y156+T157	Intestinal cell (MAK-like) kinase	PK655	RnAb	Kinexus
IGE1R	Y1165/Y1166	Insulin-like growth factor 1 recentor protein-tyrosine kinase	PK153	RnAb	External
	V13/6	Insulin-like growth factor 1 receptor protein-tyrosine kinase	DK658	PnAb	Kinevus
IGE1P	V1280	Insulin-like growth factor 1 receptor protein-tyrosine kinase	DK152	RpAb PpAb	External
IkB Kinase alnha	Pan specific	Insulin-like growth lactor Treceptor protein-tyrosine kinase	NK075.6	MmAb	External
	Pan specific	Infinition of NE-kappa-B protein-senine kinase alpha (CHOK)	NN064 2	- ReAb	External
IKDa IkDa	Pan-specific	Infibitor of NE-kappa-B alpha (MAD3)	NN004-2	RpAb DpAb	External
IKDa		Inhibitor of NF-kappa-B alpha (MAD3)	DNI464	RPAD	External
іква	¥42	Inhibitor of NF-kappa-B alpha (MAD3)	PN164	RpAb	External
IKBD	Pan-specific	Inhibitor of NF-kappa-B beta (thyroid receptor interacting protein 9)	NN065	RpAb	External
ІкВе	S22	NF-kappa-B inhibitor epsilon	PN168	RpAb	External
IKKa	Pan-specific	Inhibitor of NF-kappa-B protein-serine kinase alpha (CHUK)	NK075-3	RpAb	External
IKKa	Pan-specific	Inhibitor of NF-kappa-B protein-serine kinase alpha (CHUK)	NK075-2	MmAb	External
IKKa	T23	Inhibitor of NF-kappa-B protein-serine kinase alpha (CHUK)	PK154	RpAb	External
IKKg/NEMO	Pan-specific	I-kappa-B kinase gamma/NF-kappa-B essential modulator	NN161	MmAb	External
ILK1	Pan-specific	Integrin-linked protein-serine kinase 1	NK078-2	RpAb	External
ILK1	Y351	Integrin-linked protein-serine kinase 1	PK662	RpAb	Kinexus
InsR	Y1189	INSR insulin receptor	PK663	RpAb	Kinexus
Insulin Receptor b	Pan-specific	Insulin receptor beta chain	NK079	MmAb	External
Integrin a4	S988	Integrin alpha 4 (VLA4)	PN043	RpAb	External
Integrin b1	S785	Integrin beta 1 (fibronectin recentor beta subunit CD29 antigen)	PN044	RpAb	External
IR	Y972		PK032-1	RnAb	External
	V1162/V1163	Insulin receptor	PK033	Rp/tb Rp4b	External
	Dan specific	Interleukin 1 receptor associated kinase 1 (Pollo like protein kinase)	NK080.2	PnAb	External
	Pan-specific	Interleukin 1 receptor-associated kinase 1 (Felle-like protein kinase)	NIZ001	RpAb DpAb	External
	Pan-specific			RPAD	External
IRAK4	1345+5346	Interleukin 1 receptor-associated kinase 4	PK665	RpAb	Kinexus
IRS1	\$312	Insulin receptor substrate 1	PN117	RpAb	External
IRS1	S639	Insulin receptor substrate 1	PN118	RpAb	External
IRS1	Y1179	Insulin receptor substrate 1	PN046-2	RpAb	External
IRS1	Y612	Insulin receptor substrate 1	PN045	RpAb	External
JAK1	Pan-specific	Janus protein-tyrosine kinase 1	NK084-5	RpAb	Kinexus
JAK1	Y1022	Janus protein-tyrosine kinase 1	PK126	RpAb	External
JAK2	Pan-specific	Janus protein-tyrosine kinase 2	NK085-2	RpAb	Kinexus
JAK2	Pan-specific	Janus protein-tyrosine kinase 2	NK085-3	RpAb	Kinexus
JAK2	Pan-specific	Janus protein-tyrosine kinase 2	NK085-4	RpAb	Kinexus
JAK2	Pan-specific	Janus protein-tyrosine kinase 2	NK085	RpAb	External
JAK2	Y1007+Y1008	Janus protein-tyrosine kinase 2	PK034-2	RpAb	External
JAK2	Y1007+Y1008	Janus protein-tyrosine kinase 2	PK034-1	RpAb	External
JAK3	Pan-specific	Janus protein-tyrosine kinase 3	NK086-2	RpAb	Kinexus
JAK3	Pan-specific	Janus protein-tyrosine kinase 3	NK086-3	RnAb	Kinexus
JAK3	Pan-specific	Janus protein-tyrosine kinase 3	NK086-4	RnAh	Kinexus
1443	Pan-specific	Janus protein-tyrosine kinase 3	NK086	Mm4b	External
JAK3	Y980+Y081	lanus protein-tyrosine kinase 3	PK660	RnAh	Kinevue
JNK 1/2/3	T183/V195	lun N-terminus protein-serine kinese (stress estimated protein kinese (PK035 2	Rn∆h	External
INK 1/2/3	T103/T103	Jun N-terminus protein-senne kinase (stress-activated protein kinase (s	DK025 4	DoAb	External
	1103/1103	Jun N-terminus protein-serine kinase (stress-activated protein kinase (s	FKU30-4		External
JINK 1/2/3	1 183/1 185	Jun N-terminus protein-serine kinase (stress-activated protein kinase (PK035-1	RPAD	External
	Pan-specific	Jun IN-terminus protein-serine kinase (stress-activated protein kinase (s	INK217-2	KPAD	Kinexus
JINK1	Pan-specific	Jun N-terminus protein-serine kinase (stress-activated protein kinase (s	NK217	IVIMAb	External
JNK2	Pan-specific	Jun N-terminus protein-serine kinase (stress-activated protein kinase (s	NK189-2	RpAb	Kinexus
JNK2	Pan-specific	Jun N-terminus protein-serine kinase (stress-activated protein kinase (s	NK088-2	MmAb	External
JNK3	Pan-specific	Jun N-terminus protein-serine kinase (stress-activated protein kinase (\$	NK197-2	RpAb	Kinexus
JNK3	Pan-specific	Jun N-terminus protein-serine kinase (stress-activated protein kinase (\$	NK197	RpAb	Kinexus
Jun	Pan-specific	Jun proto-oncogene-encoded AP1 transcription factor	NN162	MmAb	External
Jun	S73	Jun proto-oncogene-encoded AP1 transcription factor	PN048-2	RpAb	External
Jun	S243	Jun proto-oncogene-encoded AP1 transcription factor	PN154	RpAb	External
Jun	S73	Jun proto-oncogene-encoded AP1 transcription factor	PN048-1	RpAb	External
Jun	T91	Jun proto-oncogene-encoded AP1 transcription factor	PN163	RpAb	External
Jun	Y170	Jun proto-oncogene-encoded AP1 transcription factor	PN155	RpAb	External
KAP	Pan-specific	Cyclin-dependent, kinase associated phosphatase (CDK inhibitor 3, CII	NP004	RpAb	External
KDEL Receptor (KR	Pan-specific	FR lumen protein retaining recentor 1	NN153	MmAh	External

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
Kit	Pan-specific	Mast/stem cell growth factor receptor Kit	NK241-2	RpAb	Kinexus
Kit	Y703	Mast/stem cell growth factor receptor Kit	PK036	RpAb	External
Kit	Y721	Mast/stem cell growth factor receptor Kit	PK150	RpAb	External
Kit	Y730	Mast/stem cell growth factor receptor Kit	PK037	RpAb	External
Kit	Y936	Mast/stem cell growth factor receptor Kit	PK038	RpAb	External
Krs-1	Pan-specific	Protein-serine kinase suppressor of Ras 1	NK090-2	GpAb	External
Krs-2	Pan-specific	Mammalian STE20-like protein-serine kinase 1 (KRS2)	NK113-3	GpAb	External
LAR	Pan-specific	I CA antigen-related (I AR) recentor tyrosine phosphatase	NP005	MmAb	External
Lck	Pan-specific	I vmphocyte-specific protein-tyrosine kinase	NK092-3	MmAb	External
Lok	Pan-specific	Lymphocyte-specific protein-tyrosine kinase	NK092-2	MmAb	External
Lok	S158	Lymphocyte-specific protein-tyrosine kinase	PK039	RnAh	External
Lok	V102	Lymphocyte-specific protein-tyrosine kinase	PK040	Rp/tb Rp4b	External
Lok	V30/	Lymphocyte-specific protein-tyrosine kinase	DK1/0	MmAb	External
Lok	V505	Lymphocyte-specific protein-tyrosine kinase	DK041	BoAb	External
	Den enecifie	Lymphocyte-specific protein-tyrosine kinase		MmAb	External
				DrAb	External
	Y507/1508		PK042-PK144	RpAb	External
	Pan-specific	Serine/threonine-protein kinase 11	NK227-3	RpAb	Kinexus
LKB1	Pan-specific	Serine/threonine-protein kinase 11	NK227-4	RpAb	Kinexus
LKB1	Pan-specific	Serine/threonine-protein kinase 11	NK227-2	RpAb	Kinexus
Lyn	Pan-specific	Yes-related protein-tyrosine kinase	NK095	MmAb	External
MAPKAPK2	Pan-specific	Mitogen-activated protein kinase-activated protein kinase 2	NK097	GpAb	External
MAPKAPK2	T222	Mitogen-activated protein kinase-activated protein kinase 2	PK044	RpAb	External
MAPKAPK2	T334	Mitogen-activated protein kinase-activated protein kinase 2 alpha	PN049-PN112-2	RpAb	External
MAPKAPK5	T186	MAP kinase-activated protein kinase 5	PK693	RpAb	Kinexus
MARCKS	S152/S156	Myristoylated alanine-rich protein kinase C substrate	PN050-1	RpAb	External
MARK1	T215	MAP/microtubule affinity-regulating protein-serine kinase 1	PK694	RpAb	Kinexus
Mcl1	Pan-specific	Myeloid cell leukemia differentiation protein 1	NN067	RpAb	External
MDM2	S166	Double minute 2	PN169	RpAb	External
MEF-2	Pan-specific	Myelin expression factor 2 (MYEF2)	NN155	RpAb	External
MEK1	Pan-specific	MAPK/ERK protein-serine kinase 1 (MKK1)	NK099-3	RpAb	Kinexus
MEK1	Pan-specific	MAPK/ERK protein-serine kinase 1 (MKK1)	NK099-7	RpAb	Kinexus
MEK1	Pan-specific	MAPK/ERK protein-serine kinase 1 (MKK1)	NK099-8	RpAb	Kinexus
MEK1	Pan-specific	MAPK/ERK protein-serine kinase 1 (MKK1)	NK099-9	RpAb	Kinexus
MEK1	Pan-specific	MAPK/ERK protein-serine kinase 1 (MKK1)	NK099-1	MmAb	External
MEK1	T386	MAPK/ERK protein-serine kinase 1 (MKK1)	PK048-2	RpAb	External
MEK1	S292	MAPK/ERK protein-serine kinase 1 (MKK1)	PK046-2	RpAb	External
MEK1	S298	MAPK/ERK protein-serine kinase 1 (MKK1)	PK047-2	RpAb	External
MEK1	T292	MAPK/ERK protein-serine kinase 1 (MKK1)	PK046-1	RpAb	External
MEK1	T386	MAPK/ERK protein-serine kinase 1 (MKK1)	PK048-1	RpAb	External
MEK1 + B23(NPM)	S217+S221	B23 (nucleophosmin, numatrin, nucleolar protein NO38)	PK045-PN007	RpAb	External
MFK2	Pan-specific	MAPK/FRK protein-serine kinase 2 (MKK2)	NK100-4	RpAb	Kinexus
MFK2	Pan-specific	MAPK/ERK protein-serine kinase 2 (MKK2)	NK100-5	RnAb	Kinexus
MEK2	Pan-specific	MAPK/ERK protein-serine kinase 2 (MKK2)	NK100-6	RnAh	Kinexus
MEK2	Pan-specific	MAPK/ERK protein-serine kinase 2 (MKK2)	NK100-1	MmAh	External
MEK2	T204	MΔPK/ERK protein_serine kinase 2 (MKK2)	PK040	Rn∆h	External
MEK2 human	T304	MADK/EDK protein-serine kinase 2 (MKK2)	DK0/0 2	RnAh	External
MEK2 mouse	T304	MARK/ERK protein earing kinges 2 (MKK2) (mouse)	PK050	RpAb PnAb	External
MEK3	Pan encoific	MARKEDK protoin soring kingso 2 hots isoform (MKK2 hots)	NK101 2	RnAh	External
MEK3	Dan ancoific	MARKERK protein sering kingse 3 beta isoform (MKK3 beta)	NIC 101-3	DoAb	External
MEK3	Pan-specific	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)		RPAD	External
MEK3/6	189/193/5207/2	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	PK051-2	RpAb	External
MEK3/6	5189 + 5207	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	PK051	RpAb	External
MEK3b	Pan-specific	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	NK102	MmAb	External
MEK4	Pan-specific	MAPK/ERK protein-serine kinase 4 (MKK4)	NK103-2	RpAb	Kinexus
MEK4	Pan-specific	MAPK/ERK protein-serine kinase 4 (MKK4)	NK103	RpAb	External
MEK4	S257/T261	MAPK/ERK protein-serine kinase 4 (MKK4)	PK052	RpAb	External
MEK5	Pan-specific	MAPK/ERK protein-serine kinase 5 (MKK5)	NK104-3	RpAb	Kinexus
MEK5	Pan-specific	MAPK/ERK protein-serine kinase 5 (MKK5)	NK104-4	RpAb	Kinexus
MEK5	Pan-specific	MAPK/ERK protein-serine kinase 5 (MKK5)	NK104-5	RpAb	Kinexus
MEK5	Pan-specific	MAPK/ERK protein-serine kinase 5 (MKK5)	NK104	GpAb	External
MEK6	Pan-specific	MAPK/ERK protein-serine kinase 6 (MKK6)	NK105-1	RpAb	External
MEK7	Pan-specific	MAPK/ERK protein-serine kinase 7 (MKK7)	NK106-2	GpAb	External
MEKK-NT	Pan-specific	MAPK/ERK kinase kinase 1	NK107-3	RpAb	Kinexus
MEKK1	Pan-specific	MAPK/ERK kinase kinase 1	NK107-4	RpAb	External
MEKK2	Pan-specific	MAPK/ERK kinase kinase 2	NK108-2	RpAb	External
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Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
MELK	Pan-specific	Maternal embryonic leucine zipper kinase	NK229-3	RpAb	Kinexus
MELK	Pan-specific	Maternal embryonic leucine zipper kinase	NK229-2	RpAb	Kinexus
Met	Pan-specific	Hepatocyte growth factor (HGF) receptor-tyrosine kinase	NK110-3	RpAb	Kinexus
Met	Pan-specific	Hepatocyte growth factor (HGE) receptor-tyrosine kinase	NK110-2	RnAb	Kinexus
Met	T1241	Hepatocyte growth factor (HGE) recentor-tyrosine kinase	PK706	RnAb	Kinexus
Met	T1355+V1356	Hepatocyte growth factor (HGE) receptor tyrosine kinase	PK707	RpAb	Kinevus
Met	V1003	Hepatocyte growth factor (HGE) receptor tyrosine kinase	PK054-2	RpAb	External
Mot	1220/V1224/V12	Hepatocyte growth factor (HCE) receptor tyrosine kinase	DK055 1	RpAb BpAb	External
MKK3	Dan specific	MARK/ERK protein acrine kinese 2 beta isoform (MKK2 beta)	NK101 5	RpAb PpAb	Kinevus
MKK2	Pan specific	MARK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	NK101-5	RpAb BpAb	Kinovus
	Pan-specific	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	NK 101-0	RPAD	Kinexus
	Pan-specific	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	NK 101-4	RPAD	Kinexus
MKK3	5189	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	PK051-4	RpAb	External
MKK3	S218	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	PK/13	RpAb	Kinexus
MKK3	Y230	MAPK/ERK protein-serine kinase 3 beta isoform (MKK3 beta)	PK/14	RpAb	Kinexus
MKK4	Pan-specific	MAPK/ERK protein-serine kinase 4 (MKK4)	NK103-5	RpAb	Kinexus
MKK4	Pan-specific	MAPK/ERK protein-serine kinase 4 (MKK4)	NK103-6	RpAb	Kinexus
MKK4	Pan-specific	MAPK/ERK protein-serine kinase 4 (MKK4)	NK103-4	RpAb	Kinexus
MKK6	Pan-specific	MAPK/ERK protein-serine kinase 6 (MKK6)	NK105-4	RpAb	Kinexus
MKK6	Pan-specific	MAPK/ERK protein-serine kinase 6 (MKK6)	NK105-5	RpAb	Kinexus
MKK6	Pan-specific	MAPK/ERK protein-serine kinase 6 (MKK6)	NK105-3	RpAb	Kinexus
MKK7	Pan-specific	MAPK/ERK protein-serine kinase 7 (MKK7)	NK106-5	RpAb	Kinexus
MKK7	Pan-specific	MAPK/ERK protein-serine kinase 7 (MKK7)	NK106-4	RpAb	Kinexus
MKP2	Pan-specific	MAP kinase phosphatase 2 (VH2)	NP007	MmAb	External
MLC	S19	Myosin regulatory light chain 2, smooth muscle isoform	PN051-1	RpAb	External
MLK3	Pan-specific	Mixed-lineage protein-serine kinase 3	NK208	RpAb	External
MLK3	T277+S281	Mixed-lineage protein-serine kinase 3	PK056	RpAb	External
mMOB1	Pan-specific	Preimplantation protein 3	NN132	RnAb	External
Mnk1	T197+T202	MAP kinase-interacting protein-serine kinase 1 (calmodulin-activated)	PK057	RnAb	External
Mnk2	Pan-specific	MAP kinase-interacting protein-serine kinase 2 (calmodulin-activated)	NK111	GnAb	External
MSH2	Pan-specific	DNA mismatch repair protein mutS homolog2 colon cancer, nonpolypo	NN069	MmAb	External
Mek1	\$376	Mitogon & stross activated protein soring kinase 1	DK058	PnAb	External
MOT1	Ban aposifio	Mammalian STE20 like protein serine kingse 1 (KDS2)	NK112 2	MmAb	External
MOT1	Pan-specific	Mammalian STE20-like protein-serine kinase 1 (KRS2)	NK113-2	DeAb	External
MST1	Pan-specific	Mammalian STE20-like protein-serine kinase 1 (KRS2)	NK113-1	RpAb BpAb	External
MGT2	Pan-specific	Mammalian STE20-like protein-serine kinase 2 (KRST)	NK 114	MmAb	External
MOTO		Mammalian STE20-like protein-serine kinase 3		DrAb	External
MST3	1 184	Mammalian STE20-like protein-serine kinase 3	PK/2/	RPAD	Kinexus
MS13	1190	Mammalian STE20-like protein-serine kinase 3	PK/28	RpAb	Kinexus
MIOR	Pan-specific	Mammalian target of rapamycin (FRAP)	NK116-4	RpAb	Kinexus
mIOR	Pan-specific	Mammalian target of rapamycin (FRAP)	NK116-3	RpAb	Kinexus
MIOR	S2448	Mammalian target of rapamycin (FRAP)	PK116	RmAb	External
Мус	T58	Myc proto-oncogene protein	PN199	RpAb	External
Мус	S373	Myc proto-oncogene protein	PN186	RpAb	External
MyoD	S200	Myoblast determination protein 1	PN182	RpAb	External
MYPT1	T696	Myosin phosphatase target 1	PN052	RpAb	External
Nek2	Pan-specific	NIMA (never-in-mitosis)-related protein-serine kinase 2	NK117-4	GpAb	External
Nek2	Pan-specific	NIMA (never-in-mitosis)-related protein-serine kinase 2	NK117-5	RpAb	External
Nek2	Pan-specific	NIMA (never-in-mitosis)-related protein-serine kinase 2	NK117-3	GpAb	External
Nek2	S171	NIMA (never-in-mitosis)-related protein-serine kinase 2	PK732	RpAb	Kinexus
Nek7	Pan-specific	NIMA (never-in-mitosis)-related protein-serine kinase 7	NK119	RpAb	External
NFkappaB p50	Pan-specific	NF-kappa-B p50 nuclear transcription factor	NN070	RpAb	External
NFkappaB p65	Pan-specific	NF-kappa-B p65 nuclear transcription factor	NN071	RpAb	External
NFKB p65	S536	NF-kappa-B p65 nuclear transcription factor	PN157	RpAb	External
NFKB p65	S529	NF-kappa-B p65 nuclear transcription factor	PN156	RpAb	External
NFKB p65 (Rel A)	S276	NF-kappa-B p65 nuclear transcription factor	PN053-1	RpAb	External
NIK	Pan-specific	NF-kappa beta-inducing kinase	NK207	GpAb	External
NIK	Pan-specific	Serine/threonine protein kinase NLK	NK212	GpAh	External
NMDAR1	S896	N-methyl-D-aspartate (NMDA) glutamate recentor 1 subunit zeta	PN055-1	RnAh	External
NMDAR2B	Y1472	N-methyl-D-aspartate (NMDA) glutamate recentor 28 subunit	PN054	Rn∆h	External
NME7	Pan-specific	Nucleotide dinhosphate kinase 7 (nm23-H7)	NN074	Rn∆h	External
NT5E	Pan_specific	Ecto 5' nucleotidaçe (CD73 antigen)	NIN075	RnAh	External
n107	Dan encoific	Detinobleateme (Db) protein related =107 (DDD1)	NINO73	DnAb	External
p107	Dan ancoific	nethouldstoffia (RU) protein-related p107 (PRB1)		Dove	External
		pro investo cyclin-dependent kinase innibitor		TLAN Dove	External
	Pan-specific	cyclin-dependent kinase innibitor 1 (MDA6)		RPAD	External
p∠/ Kip1	Pan-specific	p27 cyclin-dependent kinase inhibitor 1B	080 <i>M</i> N	крар	External

Target Protein	Phospho Site	Full Target Protein Name	Antibody Codes	Antibody	Antibody
Name	(Human)			Туре	Source
p35	Pan-specific	CDK5 regulatory subunit p25 and p35	NN081-NN120	RpAb	External
p38a (MAPK 14)	Pan-specific	Mitogen-activated protein-serine kinase p38 alpha	NK120-2	RpAb	External
p38a MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 alpha	NK120-5	RpAb	External
p38a MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 alpha	NK120-8	RpAb	Kinexus
p38a MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 alpha	NK120-4	MmAb	External
p38a MAPK	T180/Y182	Mitogen-activated protein-serine kinase p38 alpha	PK060-3	RpAb	External
p38a MAPK	T180/Y182	Mitogen-activated protein-serine kinase p38 alpha	PK060-1	RpAb	External
p38a MAPK	T180+pY182	Mitogen-activated protein-serine kinase p38 alpha	PK739	RpAb	Kinexus
p38b MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 beta	NK248-2	RpAb	Kinexus
p38b MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 beta	NK248-3	RpAb	Kinexus
p38b MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 beta	NK248-1	RpAb	Kinexus
p38b MAPK	T180+pY182	Mitogen-activated protein-serine kinase p38 beta	PK741	RpAb	Kinexus
p38d MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 delta (MAPK13)	NK121-3	RpAb	Kinexus
p38d MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 delta (MAPK13)	NK121-4	RpAb	Kinexus
p38d MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 delta (MAPK13)	NK121-2	RpAb	Kinexus
p38d MAPK	Y182	Mitogen-activated protein-serine kinase p38 delta (MAPK13)	PK743	RpAb	Kinexus
p38g MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 gamma (MAPK12)	NK059-3	RpAb	Kinexus
p38g MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 gamma (MAPK12)	NK059-4	RpAb	Kinexus
p38g MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 gamma (MAPK12)	NK059-5	RpAb	Kinexus
p38g MAPK	Pan-specific	Mitogen-activated protein-serine kinase p38 gamma (MAPK12)	NK059-1	RpAb	External
p53	Pan-specific	Tumor suppressor protein p53 (antigenNY-CO-13)	NN082	MmAb	External
p53	S33	Tumor suppressor protein p53 (antigenNY-CO-13)	PN158	RpAb	External
n53	S37	Tumor suppressor protein p53 (antigenNY-CO-13)	PN159	RnAb	External
n53	\$392	Tumor suppressor protein p53 (antigenNY-CO-13)	PN057-2	RnAb	External
n53	S6	Tumor suppressor protein p53 (antigenNV-CO-13)	PN160	RnAh	External
p00 p70 S6K	Pan-specific	Ribosomal protein S6 kinase beta-1	NK223	MmAb	External
p70 00K	S411	Ribosomal protein S6 kinase beta 1	PK166	Rn4b	External
p70 00K	S424	Ribosomal protein S6 kinase beta 1	DK156	PnAb	External
p70 SOK	T220	Ribosomal protein S0 kinase beta 1	DK145	RpAb BpAb	External
p70 30K	1229	Ribosomal protein So kinase beta 1	DK145	RpAb DpAb	External
p70 30K	1421/3424	Ribosomai protein So kinase beta-1	PK 140	RPAD Mm Ab	External
p73	Pan-specific	Tumor suppressor protein p73	ININ 123	Dr.Ah	External
D401	5343	Nijmegen breakage syndrome protein 1	PN187	RpAb	External
PAC1	Pan-specific	Dual specificity MAP kinase protein phosphatase	NP008	GpAb	External
PACSIN1	Pan-specific	Protein kinase C + casein kinase substrate in neurons protein 1	NN084	RpAb	External
PAK1	Pan-specific	p21-activated kinase 1 (alpha) (serine/threonine-protein kinase PAK 1)	NK122	RpAb	External
PAK1	1212	p21-activated kinase 1 (alpha) (serine/threonine-protein kinase PAK 1)	PK130	RpAb	External
PAK1/2/3	S144/S141/S154	p21-activated kinase 1 (alpha) (serine/threonine-protein kinase PAK 1)	PK061	RpAb	External
PAK3	Pan-specific	p21-activated kinase 3 (beta) (serine/threonine-protein kinase PAK 3)	NK123	GpAb	External
PAK4	S474	p21-activated kinase 4	PK752	RpAb	Kinexus
РАКа	Pan-specific	p21-activated kinase 1 (alpha) (serine/threonine-protein kinase PAK 1)	NK122-4	RpAb	External
PAKg	Pan-specific	p21-activated kinase 2 (gamma) (serine/threonine-protein kinase PAK 2	NK200-2	GpAb	External
PARP1	Pan-specific	Poly [ADP-ribose] polymerase 1 (ADPRT)	NN085-1	RpAb	External
Paxillin	Pan-specific	Paxillin 1	NN086	MmAb	External
Paxillin 1	Y118	Paxillin 1	PN060-1	RpAb	External
Paxillin 1	Y31	Paxillin 1	PN059	RpAb	External
PCTK1	Pan-specific	PCTAIRE-1 protein-serine kinase	NK125	RbAb	External
PCTK2	S180	Cell division protein kinase 17	PK756	RpAb	Kinexus
PDGFRa	Pan-specific	Platelet-derived growth factor receptor kinase alpha	NK242-2	RpAb	Kinexus
PDGFRa	Pan-specific	Platelet-derived growth factor receptor kinase alpha	NK242-1	RpAb	Kinexus
PDGFRa	S847+pY849	Platelet-derived growth factor receptor kinase alpha	PK757	RpAb	Kinexus
PDGFRa	Y754	Platelet-derived growth factor receptor kinase alpha	PK063	RpAb	External
PDGFRa	Y762	Platelet-derived growth factor receptor kinase alpha	PK758	RpAb	Kinexus
PDGFRa	Y768	Platelet-derived growth factor receptor kinase alpha	PK759	RpAb	Kinexus
PDGFRb	Pan-specific	Platelet-derived growth factor receptor kinase beta	NK243-3	RnAb	Kinexus
PDGFRb	Pan-specific	Platelet-derived growth factor recentor kinase beta	NK243-1	RnAb	Kinexus
PDGFRb	Y716	Platelet-derived growth factor receptor kinase beta	PK065	RnAh	External
PDI	Pan-specific	Protein disulfide-isomerase	NN141_1	Rn∆h	External
	Pan-enecific	3-nhosnhoinositide-dependent protein-sering kingso 1	NK126.2	GnAh	External
PDK1	Pan-specific	Pyrijvate debydrogenase kinase isoform 1	NN170_1	Rn∆h	Kinevue
PDK1	Pan encoific	n yruvale uchyuruychase Mildse ISUIUIII I Dyruvato dobydrogonaso kinoso isoform 1	NN170 2	RnAh	Kinevus
	Dan ancoific		NN100 0	Do	Kinovus
	Pan anosifia	ryuvate denydrogenase kinase isoform 2	NN100-2	RPAD DoAb	Kinexus
	Pan-specific	Pyruvale denydrogenase kinase isotorm 2		RPAD DoAt	Kinexus
PDK3	Pan-specific	Pyruvate dehydrogenase kinase isoform 3	NN181-2	RPAD Dr. Al	Kinexus
PDK3	Pan-specific	Pyruvate dehydrogenase kinase isoform 3	NN181-1	RpAb	Kinexus

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
PDK4	Pan-specific	[Pyruvate dehydrogenase [lipoamide]] kinase isozyme 4, mitochondrial	NN178-3	RpAb	Kinexus
PDK4	Pan-specific	[Pyruvate dehydrogenase [lipoamide]] kinase isozyme 4, mitochondrial	NN178-2	RpAb	Kinexus
PED15 (PEA15)	S116	Phosphoprotein-enriched in diabetes/astrocytes 15	PN061	RpAb	External
PERP	Pan-specific	p53-induced protein PIGPC1	NN088	RpAb	External
PI3-Kinase	Pan-specific	Phosphatidylinositol 3-kinase regulatory subunit alpha	NN089	MmAb	External
PITSLRE	Pan-specific	PITSLRE serine/threonine-protein kinase CDC2L1	NK213	RpAb	External
PKA	Pan-specific	cAMP-dependent protein kinase catalytic subunit alpha	NK127-1	MmAb	External
PKA Ca/b	T197	cAMP-dependent protein kinase catalytic subunit alpha	PK067	RpAb	External
PKA Cb	S338	cAMP-dependent protein-serine kinase catalytic subunit beta	PK068	RpAb	External
PKA R2a (PKR2)	S98	cAMP-dependent protein-serine kinase regulatory type 2 subunit alpha	PK069	RpAb	External
PKB2-PCT	Pan-specific	BAC-beta serine/threonine-protein kinase	NK130-5	RpAb	Kinexus
PKCII	Pan-specific	Protein-serine kinase C beta 2	NK134-2	RpAb	External
PKCa	Pan-specific	Protein-serine kinase C alnha	NK132	MmAb	External
PKCa	S657	Protein-serine kinase C alpha	PK073	RnAh	External
PKCh	Pan-specific	Protein-serine kinase C beta 1	NK133-2	MmAb	Kinexus
PKCb1	Pan-specific	Protein-serine kinase C beta 1	NK133	RnAh	External
PKCb1/2		Protein-serine kinase C beta 1/2	DK075.2	RpAb PpAb	External
PKCb2	T641	Protein-serine kinase C beta 1/2	DK076-2	RpAb BpAb	External
	Don onosifio	Protein-serine kinase C delta	FR070-2	RpAb DpAb	External
PKCd	Pan-specific	Protein-serine kinase C della		RPAD	External
PKCd	1311		PK077-2	RPAD	External
PKCd	5645	Protein-serine kinase C delta	PK079-1	RpAb	External
PKCd	5664	Protein-serine kinase C delta	PK080	RPAD	External
PKCa	Y311	Protein-serine kinase C delta	PK077-1	RpAb	External
PKCe	Pan-specific	Protein-serine kinase C epsilon	NK136-2	GpAb	External
PKCe	Pan-specific	Protein-serine kinase C epsilon	NK136	RpAb	External
PKCe	S729	Protein-serine kinase C epsilon	PK081-2	RpAb	External
PKCe	S729	Protein-serine kinase C epsilon	PK081-1	RpAb	External
PKCg	Pan-specific	Protein-serine kinase C gamma	NK137	RpAb	External
PKCg	T514	Protein-serine kinase C gamma	PK082-2	RpAb	External
PKCg	T514	Protein-serine kinase C gamma	PK082-1	RpAb	External
PKCg	T655	Protein-serine kinase C gamma	PK083	RpAb	External
PKCg	T674	Protein-serine kinase C gamma	PK084	RpAb	External
PKCh	Pan-specific	Protein-serine kinase C eta	NK218	RpAb	External
PKCh	T655	Protein-serine kinase C eta	PK085	RpAb	External
PKCI	Pan-specific	Protein-serine kinase C lambda/iota	NK138-1	GpAb	External
PKCI	T555/T563	Protein-serine kinase C lambda/iota	PK087	RpAb	External
PKCm (PKD)	S916	Protein-serine kinase C mu (Protein kinase D)	PK093-1	RpAb	External
PKCm (PKD)	S738/S742	Protein-serine kinase C mu (Protein kinase D)	PK092	RpAb	External
PKCt	Pan-specific	Protein-serine kinase C theta	NK140	MmAb	External
PKCt	S676	Protein-serine kinase C theta	PK089-1	RpAb	External
PKCt	S695	Protein-serine kinase C theta	PK090-1	RpAb	External
PKCz	Pan-specific	Protein-serine kinase C zeta	NK141	RpAb	External
PKD (PKCm)	Pan-specific	Protein-serine kinase C mu (Protein kinase D)	NK142	RpAb	External
PKG1	Pan-specific	cGMP-dependent protein kinase 1 alpha isozyme	NK143	RnAb	External
PKG1b-NT	Pan-specific	cGMP-dependent protein kinase 1, beta isozvme	NK203	RpAh	Kinexus
PKN	Pan-specific	Protein kinase C-related protein-serine kinase 1	NK148	GnAh	External
PKR1	Pan-specific	Double stranded RNA dependent protein-serine kinase	NK144-1	MmAh	External
PKR1	T446	Double-stranded RNA-dependent protein-serine kinase	PK132	RnAh	External
PI Ca1	V771	1-phosphatidylinositol_4 5-bisphosphate phosphodiostorase domme 1	PN165	RnAh	External
PL Ca1	V783	1 phosphatidylinositol 4,5-bisphosphate phosphodiesterase gamma 1	DN144	PnAb	External
PL Co2	V752	1-phosphalidylinositol-4,5-bisphosphale phosphodiesterase gamma-1	DN142	RpAb BpAb	External
	Den anosifia	1-phosphalidyimositol-4,5-bisphosphale phosphodiesterase gamma-2	FIN 143	RpAb DpAb	External
	Pan-specific	1-phosphatidylinositol-4,5-bisphosphate phosphodiesterase gamma-2		RPAD	External
	Pan-specific	Protein-serine prosphatase 1 - catalytic subunit - alpha isoform	NP009-2	RPAD	External
	Pan-specific	Protein-serine phosphatase 1 - catalytic subunit - beta isoform	NP010	RPAD	External
PP1/Cg (PP1g1)	Pan-specific	Protein-serine phosphatase 1 - catalytic subunit - gamma isoform	NP011	RpAb	External
PP2A B' (B56)	Pan-specific	Protein-serine phosphatase 2A - B regulatory subunit - B56 alpha isofo	NP033	RpAb	External
PP2A/Aa/b	Pan-specific	Protein-serine phosphatase 2A - A regulatory subunit - alpha and beta	NP012	RpAb	External
PP2A/Bb	Pan-specific	Protein-serine phosphatase 2A - B regulatory subunit - beta isoform	NP035	RpAb	External
PP2A/Bg2	Pan-specific	Protein-serine phosphatase 2A - B regulatory subunit - gamma isoform	NP032	RpAb	External
PP2A/Ca	Pan-specific	Protein-serine phosphatase 2A - catalytic subunit - alpha isoform	NP013-NP014	MmAb	External
PP2B/Aa	Pan-specific	Protein-serine phosphatase 2B - catalytic subunit - alpha isoform	NP015	RpAb	External
PP2Cd	Pan-specific	Protein-serine phosphatase 2C - catalytic subunit - delta isoform	NP018	MmAb	External
PP4/A'2	Pan-specific	Protein-serine phosphatase 4 - regulatory subunit (PPX/A'2)	NP019	RmAb	External
PP4C (X/C)	Pan-specific	Protein-serine phosphatase X - catalytic subunit (PPX/C)	NP020-2	RpAb	External

Target Protein	Phospho Site	Full Target Protein Name	Antibody Codes	Antibody	Antibody
Name	(Human)			Type	Source
	Pan-specific	Protein-serine phosphatase X - catalytic subunit (PPX/C)	NP020	RpAb	External
	Pan-specific	Protein-serine phosphatase 5 - catalytic subunit (PPT)	NP021	MIMAD	External
PPP1R11	Y 64	Protein phosphatase 1 regulatory subunit 11	PN532	RpAb	Kinexus
PRAS40	1246	Proline-rich Akt substrate 40 kDa (Akt1S1)	PN062	RpAb	External
PRK2	Pan-specific	Protein kinase C-related protein-serine kinase 2	NK149-2	GpAb	External
PRK2	Pan-specific	Protein kinase C-related protein-serine kinase 2	NK149	RpAb	External
PRKDC (DNAPK)	Pan-specific	DNA-activated protein-serine kinase	NK048-5	RpAb	Kinexus
PRKDC (DNAPK)	Pan-specific	DNA-activated protein-serine kinase	NK048-6	RpAb	Kinexus
PRKDC (DNAPK)	Pan-specific	DNA-activated protein-serine kinase	NK048-7	RpAb	Kinexus
PRKDC (DNAPK)	Pan-specific	DNA-activated protein-serine kinase	NK048-4	RpAb	Kinexus
PRKWNK4	Pan-specific	Putative protein-serine kinase WNK4	NK151	RpAb	External
Progesterone Recept	S294	Progesterone receptor	PN104	MmAb	External
PRP4K	Y849	Protein-serine kinase PRP4 homolog	PK786	RpAb	Kinexus
PSD-95	Pan-specific	Disks large homolog 4	NN142	MmAb	External
PTEN	Pan-specific	Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and protein ph	NP023-3	RpAb	Kinexus
PTEN	Pan-specific	Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and protein ph	NP023-5	RpAb	Kinexus
PTEN	Pan-specific	Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and protein ph	NP023	MmAb	External
PTEN	S380/T382/T383	3 Phosphatidylinositol-3.4.5-trisphosphate 3-phosphatase and protein ph	PP006-1	RpAb	External
PTEN	S380/S382/S38	5 Phosphatidylinositol-3,4,5-trisphosphate 3-phosphatase and protein ph	PP003	RpAb	External
PTEN	S380/T382/T382	Phosphatidylinositol-3 4 5-trisphosphate 3-phosphatase and protein ph	PP006	RnAb	External
PTP-PEST	Pan_specific	Protein tyrosine phosphatase non-recentor type 12	NP027	Mm ^Δ h	External
PTP1B	Pan-specific	Protein-tyrosine phosphatase 18	NP024	MmΔh	External
	Pan specific	Protein-tyrosine phosphatase 16 (CUD4, CUDTD4)	ND025	MmAb	External
	Pan-specific	Protein-tyrosine phosphatase 1C (SHP1, SHP1P1)	NP020	Mm Ab	External
PTP1D/SHP2	Pan-specific	Protein-tyrosine phosphatase 1D (SHP2, SHP1P2, Syp, P1P2C)	NP026	INIMAD	External
	Pan-specific	Protein-tyrosine phosphatase non-receptor type 21	NP036	RPAD	External
РҮК	pTyr	Generic phosphotyrosine	PG001	RpAb	Kinexus
Pyk2	Pan-specific	Protein-tyrosine kinase 2	NK154	GpAb	External
PYK2	Y579	Protein-tyrosine kinase 2	PK097-3	RpAb	External
PYKSD8	pTyr	Conserved phosphotyrosine site in protein kinases before Subdomain	PG005	RpAb	Kinexus
Rac1	Pan-specific	Ras-related C3 botulinum toxin substrate 1	NN092-1	MmAb	External
Rac1/cdc42	S71	Ras-related C3 botulinum toxin substrate 1	PN063	RpAb	External
Rad17	S645	Rad17 homolog	PN064	RpAb	External
Raf1	Pan-specific	Raf1 proto-oncogene-encoded protein-serine kinase	NK155-5	RpAb	Kinexus
Raf1	Pan-specific	Raf1 proto-oncogene-encoded protein-serine kinase	NK155-6	RpAb	Kinexus
Raf1	Pan-specific	Raf1 proto-oncogene-encoded protein-serine kinase	NK155-4	RpAb	External
Raf1	S259	Raf1 proto-oncogene-encoded protein-serine kinase	PK098	RpAb	External
Rb	Pan-specific	Retinoblastoma-associated protein 1	NN093	MmAb	External
Rb	S608	Petinoblastoma-associated protein 1	PN113	MmAb	External
Rh	S612	Retinoblastoma associated protein 1	PN066	Rn4h	External
Dh	\$790	Retinoblastoma associated protein 1	DNI067	RpAb BpAb	External
RU Dh	5760	Relinoblastoma-associated protein 1	DN121 1	RpAb DpAb	External
RD	5795	Retinoblastoma-associated protein 1		RPAD	External
RD	5807	Retinoblastoma-associated protein 1	PN068	RpAb	External
Rb	S807+S811	Retinoblastoma-associated protein 1	PN069	RpAb	External
KD	1356	Retinoblastoma-associated protein 1	PN065	RpAb	External
KD	1821	Retinoblastoma-associated protein 1	PN070	RpAb	External
Rb	T826	Retinoblastoma-associated protein 1	PN071	RpAb	External
RelB	Pan-specific	Transcription factor RelB	NN170	RpAb	External
RelB	S552	Transcription factor RelB	PN151	RpAb	External
Ret	Pan-specific	Proto-oncogene tyrosine-protein kinase receptor Ret	NK244-2	RpAb	Kinexus
Ret	Pan-specific	Proto-oncogene tyrosine-protein kinase receptor Ret	NK244-1	RpAb	Kinexus
RIP2/RICK	Pan-specific	Receptor-interacting serine/threonine-protein kinase 2 (RIPK2)	NK157	MmAb	External
RIPK	Pan-specific	Receptor-interacting protein-serine kinase 1	NK158	MmAb	External
ROCK-I/ROKb	Pan-specific	RhoA protein-serine kinase beta	NK160	MmAb	External
ROKa	Pan-specific	Rho-associated protein kinase 2	NK159-2	RpAb	External
ROKa	Pan-specific	Rho-associated protein kinase 2	NK159-1	MmAb	External
RON	Pan-specific	Macrophage-stimulating protein recentor alpha chain	NK161-3	RnAh	Kinexus
RON	Pan-specific	Macronhage-stimulating protein receptor alpha chain	NK161_2	Rn∆h	Kinevue
PON	V1020	Macrophage stimulating protein receptor alpha chain		DrAb	Kineyue
PONa	Dan specific	Macrophage stimulating protein receptor alpha shain	NK161	MmAb	External
Ros					Kinovia
RUS	Pan-specific	Orosomucoid 1 receptor-tyrosine Kinase	NK 103-4	RPAD	Kinexus
ROS	Pan-specific	Urosomucoid 1 receptor-tyrosine kinase	NK163-3	R R R R R R R R R R R R R R R R R R R	Kinexus
KSK1	Pan-specific	Ribosomal S6 protein-serine kinase 1	NK164	RpAb	External
RSK1	S352	Ribosomal S6 protein-serine kinase 1	PK157	RpAb	External
RSK1	T348	Ribosomal S6 protein-serine kinase 1	PK158	RpAb	External

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
RSK1/2	S363/S369	Ribosomal S6 protein-serine kinase 1/2	PK100-2	RpAb	External
RSK1/2	S363/S369	Ribosomal S6 protein-serine kinase 1/2	PK100	RnAb	External
RSK1/2	\$380/\$386	Ribosomal S6 protein-serine kinase 1/2	PK101-2	RnAh	External
RSK1/2	\$221/\$227	Pibosomal S6 protein-serine kinase 1/2	PK000	RnAh	External
	522 1/3221 TE72	Ribosomal S6 protein-serine kinase 1/2	DK102	DpAb	External
RSK 1/2/3	15/3	Ribosomai S6 protein-serine kinase 1/2/3	PK 102	RPAD	External
Sb	\$235	40S ribosomal protein S6	PN073	RPAD	External
S6K	T412	Ribosomal protein S6 kinase beta-1	PK147	RpAb	External
SG2NA	Pan-specific	Striatin-3	NN133	RpAb	External
Shc1	Y349	SH2 domain-containing transforming protein 1	PN161	RpAb	External
Shc1	Y239/Y240	SH2 domain-containing transforming protein 1	PN074	RpAb	External
SHIP1	Pan-specific	Phosphatidylinositol-3.4.5-trisphosphate 5-phosphatase 1	NP044-2	RpAb	Kinexus
SHIP2	Pan-specific	Phosphatidylinositol-3.4.5-trisphosphate 5-phosphatase 2	NP045-1	RnAh	Kinexus
SHP2	Pan-specific	Protoin tyrosino phosphataso 1D (SHP2 SHPTP2 Syn PTP2C)	NP026-2	RnAh	External
	0576	Protein-tyrosine phosphalase 1D (SHF2, SHF1F2, Syp, F1F2C)		DpAb	External
	3570	Protein-tyrosine phosphatase 1D (SHP2, SHP1P2, Syp, P1P2C)	PF004	RPAD	External
SIK2	Pan-specific	Serine/threonine-protein kinase SIK2	NK249-2	RPAD	Kinexus
SIK2	Pan-specific	Serine/threonine-protein kinase SIK2	NK249-3	RpAb	Kinexus
SIK2	Pan-specific	Serine/threonine-protein kinase SIK2	NK249-1	RpAb	Kinexus
SIK3	Pan-specific	Serine/threonine-protein kinase SIK3	NK250-3	RpAb	Kinexus
SIK3	Pan-specific	Serine/threonine-protein kinase SIK3	NK250-1	RpAb	Kinexus
Smac/DIABLO	Pan-specific	Second mitochondria-derived activator of caspase	NN095	RpAb	External
Smad1	S465	Mothers against decapentaplegic homologs 1	PN183	RnAh	External
Smad2	T220	Mothere against decapontaplogic homolog 2	PN185	RnAh	External
Smad2	S467	Methers against decapentaplegic homolog 2	DN194	RpAb DpAb	External
Siliauz	0407	Mothers against decapentaplegic nomolog 2	FIN 104	RPAD	External
Smad2/3	Pan-specific	SMA- and mothers against decapentaplegic homolog 2/3	NN096		External
SMC1	S957	Structural maintenance of chromosomes protein 1A	PN125	RpAb	External
SMG1	Pan-specific	Lambda/iota protein kinase C-interacting protein	NK233-3	RpAb	Kinexus
SMG1	Pan-specific	Lambda/iota protein kinase C-interacting protein	NK233-1	RpAb	Kinexus
SNCA (a-Synuclein)	S129	Alpha-synuclein	PN197	RpAb	External
SNF1IK	Pan-specific	Serine/threonine-protein kinase SIK1	NK251-1	RpAb	Kinexus
Snk	Pan-specific	Polo-like protein kinase 2 (serum -inducible kinase (SNK))	NK146-2	GnAb	External
SOCS2	Pan-specific	Suppressor of cytokine signaling 2	NN145	BnAh	External
80084	Pan specific	Suppressor of sytokine signalling 4 (SOCS7)	NNI007	Pp/b	External
30034 00D (0::/7=)		Suppressor of cytokine signalling 4 (SOCS7)	NIN097	RPAD	External
SOD (Cu/Zh)	Pan-specific	Superoxide dismutase 1	NN098	RPAD	External
SODD	Pan-specific	Silencer of death domains (Bcl2 associated athanogene 4 (BAG4))	NN099	RPAD	External
SOX9	S181	SRY (sex determining region Y)-box 9 (campomelic dysplasia, autosom	PN077	RpAb	External
SPHK1	Pan-specific	Sphingosine kinase 1	NN100	RpAb	External
SPHK2	Pan-specific	Sphingosine kinase 2	NN101	RpAb	External
Src	Pan-specific	Src proto-oncogene-encoded protein-tyrosine kinase	NK172-3	RpAb	External
Src	Pan-specific	Src proto-oncogene-encoded protein-tyrosine kinase	NK172-4	MmAb	External
Src	Pan-specific	Src proto-oncogene-encoded protein-tyrosine kinase	NK172-2	RnAh	External
Src	V/18	She prote choogene chooded protein tyrosine kinase	DK107	Pn/h	External
Ore	VE20			DrAb	External
SIC	1529	Src proto-oncogene-encoded protein-tyrosine kinase	PKIU8	RPAD	External
STAT1	Pan-specific	Signal transducer and activator of transcription 1 alpha	NN102-NN124	RPAD	External
STAT1	S727	Signal transducer and activator of transcription 1 alpha	PN078-PN135	RpAb	External
STAT1	Y701	Signal transducer and activator of transcription 1 alpha	PN079-PN136	RpAb	External
STAT2	Pan-specific	Signal transducer and activator of transcription 2	NN103	RpAb	External
STAT2	Y689	Signal transducer and activator of transcription 2	PN080	RpAb	External
STAT3	Pan-specific	Signal transducer and activator of transcription 3	NN104	RpAb	External
STAT3	Y704	Signal transducer and activator of transcription 3	PN082-1	RnAh	External
STATA	Pan specific	Signal transducer and activator of transcription of	NN117	Pn/h	External
OTATE				DeAb	External
STATS	1094	Signal transducer and activator of transcription 5A	PINU03-1	RPAD	External
STAT5A	Pan-specific	Signal transducer and activator of transcription 5A	NN105	RpAb	External
STAT5A	S780	Signal transducer and activator of transcription 5A	PN119	RpAb	External
STAT5B	Pan-specific	Signal transducer and activator of transcription 5B	NN106	RpAb	External
STAT6	Pan-specific	Signal transducer and activator of transcription 6	NN107	RpAb	External
STI1	Pan-specific	Stress induced phosphoprotein 1 (Hsc70/Hsp90 organizing protein (Ho	NN108	MmAb	External
Striatin	Pan-specific	Striatin	NN134	RpAh	External
Svk	Pan-specific	Spleen protein-tyrosine kinase	NK174	Mm4h	External
Syk	Vana	Chloon protein tyroping kingge	DK921	DnAb	Kineyue
Oyk Out	1323			RpAU Dr Al-	Tute mel
БуК	r 323	Spieen protein-tyrosine kinase	PK159	RPAD	External
Synapsin 1	Pan-specific	Synapsin 1 isoform la	NN171	RpAb	External
Synapsin 1	S603	Synapsin 1 isoform la	PN111	RpAb	External
TAK1	Pan-specific	TGF-beta-activated protein-serine kinase 1	NK175-5	MmAb	External
Tau	S713	Microtubule-associated protein tau	PN090-2	RpAb	External

Target Protein Name	Phospho Site (Human)	Full Target Protein Name	Antibody Codes	Antibody Type	Antibody Source
Tau	S199/202	Microtubule-associated protein tau	PN086	RpAb	External
Tau	S400	Microtubule-associated protein tau	PN091	RpAb	External
Tau	S404	Microtubule-associated protein tau	PN092	RpAb	External
Tau	S422	Microtubule-associated protein tau	PN107	RpAb	External
Tau	S713	Microtubule-associated protein tau	PN090	RpAb	External
Tau	T205	Microtubule-associated protein tau	PN121	RpAb	External
Tau	T231	Microtubule-associated protein tau	PN122	RpAb	External
Tau	S199	Microtubule-associated protein tau	PN085	RpAb	External
TBK1	Pan-specific	Serine/threonine-protein kinase TBK1	NK220-2	RpAb	External
TBK1	S172	Serine/threonine-protein kinase TBK1	PK828	RpAb	Kinexus
TEC	Y519	Tyrosine-protein kinase Tec	PK829	RpAb	Kinexus
TRADD	Pan-specific	Tumor necrosis factor receptor type 1 associated DEATH domain prote	NN110	MmAb	External
Trail	Pan-specific	Tumor necrosis factor-related apoptosis-inducing ligand	NN111	RpAb	External
TrkA	Pan-specific	Nerve growth factor (NGF) receptor-tyrosine kinase	NK178	RpAb	External
TrkB	Pan-specific	BNDF/NT3/4/5 receptor- tyrosine kinase	NK179	RpAb	External
TrkB	Y705	BNDF/NT3/4/5 receptor- tyrosine kinase	PK160	RpAb	External
ттк	Pan-specific	Dual specificity protein kinase	NK180	RpAb	External
Tubulin	Pan-specific	Tubulin	CN002	RpAb	External
TYK2	Pan-specific	Protein-tyrosine kinase 2 (Jak-related)	NK181-2	RpAb	External
TYK2	Pan-specific	Protein-tyrosine kinase 2 (Jak-related)	NK181-3	RpAb	Kinexus
ТҮК2	Pan-specific	Protein-tyrosine kinase 2 (Jak-related)	NK181-4	RpAb	Kinexus
TYK2	Pan-specific	Protein-tyrosine kinase 2 (Jak-related)	NK181-5	RpAb	Kinexus
ТҮК2	Pan-specific	Protein-tyrosine kinase 2 (Jak-related)	NK181	RpAb	External
Tvro10	Pan-specific	Neurotrophic receptor-tyrosine kinase of discoidin domain receptor fam	NK183-1	RpAb	External
Tyrosine Hydroxylas	S40	Tyrosine hydroxylase isoform a	PN093-1	RpAb	External
VAV1	Y826	Vav 1 guanine nucleotide exchange factor	PN543	RpAb	Kinexus
VEGF-C	Pan-specific	Vascular endothelial growth factor C	NN176	RpAb	External
VEGFR2	Y1059	Vascular endothelial growth factor receptor-tyrosine kinase 2 (Flk1)	PK161	RpAb	External
VEGFR2	Y1214	Vascular endothelial growth factor receptor-tyrosine kinase 2 (Flk1)	PK133	RpAb	External
VGFR1	Pan-specific	Vascular endothelial growth factor receptor 1	NK226-2	RpAb	External
VGFR2	Pan-specific	Vascular endothelial growth factor receptor-tyrosine kinase 2 (Flk1)	NK245-3	RpAb	Kinexus
VGFR2	Pan-specific	Vascular endothelial growth factor receptor-tyrosine kinase 2 (Flk1)	NK245-2	RpAb	Kinexus
VGFR3	Pan-specific	Vascular endothelial growth factor receptor-protein-tyrosine kinase 3 (V	NK064-3	RpAb	Kinexus
VGFR3	Pan-specific	Vascular endothelial growth factor receptor-protein-tyrosine kinase 3 (V	NK064-2	RpAb	Kinexus
VHR	Pan-specific	Dual specificity protein phosphatase 3	NP030	MmAb	External
VIM	Y117	Vimentin	PN544	RpAb	Kinexus
Vimentin	S33	Vimentin	PN094	MmAb	External
Wee1	Pan-specific	Wee1 protein-tyrosine kinase	NK185	RpAb	Kinexus
Wip1	Pan-specific	Protein phosphatase 1D	NP037	GpAb	External
WNK1	Pan-specific	Serine/threonine-protein kinase WNK1	NK252-1	RpAb	Kinexus
WNK1	S382	Serine/threonine-protein kinase WNK1	PK855	RpAb	Kinexus
WNK2	Pan-specific	Serine/threonine-protein kinase WNK2	NK253-3	RpAb	Kinexus
WNK3	Pan-specific	Serine/threonine-protein kinase WNK3	NK254-3	RpAb	Kinexus
WNK3	Pan-specific	Serine/threonine-protein kinase WNK3	NK254-1	RpAb	Kinexus
Yes	Pan-specific	Yamaguchi sarcoma proto-oncogene-encoded tvrosine kinase	NK186-2	MmAb	External
Yes	Pan-specific	Yamaguchi sarcoma proto-oncogene-encoded tvrosine kinase	NK186	MmAb	External
YSK1	Pan-specific	Serine/threonine-protein kinase 25	NK214	GpAb	External
YSK4	Pan-specific	SPS1/STE20-related protein kinase YSK4	NK256-2	RpAb	Kinexus
ZAP70	Pan-specific	Zeta-chain (TCR) associated protein-tyrosine kinase. 70 kDa	NK187-2	RpAb	External
ZAP70	Pan-specific	Zeta-chain (TCR) associated protein-tyrosine kinase, 70 kDa	NK187	MmAb	External
ZIPK	Pan-specific	ZIP kinase (death associated protein-serine kinase 3 (DAPK3))	NK188-2	RpAb	External
ZIPK	Pan-specific	ZIP kinase (death associated protein-serine kinase 3 (DAPK3))	NK188-1	RpAb	External



Form: KW-SOF-01

KINEXUS ORDER NUMBER

CUSTOMER INFORMATION CREPEAT CUSTOMER OR CUSTOMER

\square Dr. \square Mr. \square Ms.			
Name of Authorized Representative or Principal Investigator	Title/Position	!	
Company Name or Institute	Department		
Street Address			
City	State or Province	Country	Zip or Postal Code
Email Address	(Area Code) Telephone	Number (Area Code)	Facsimile Number
Contact Person (if different from Authorized Representative)	Email Address	(Area Code)	Telephone Number

KINETWORKSTM REPORTS

RESULTS SENT BY EMAIL TO: AUTHORIZED REPRESENTATIVE/INVESTIGATOR AND/OR CONTACT PERSON

BILLING INFORMATION

Services offered for KinetworksTM Standard or Custom Screens

PRICE PER SAMPLE - Refer to Section D of the Antibody Identification Fo	rms: All prices in U.S. Funds
Standard Screens: KPSS 1.3, KPSS 10.1, KPSS 11.0, KPSS 12 Number of Kinetworks™ screens – 1 sample, Non-confidential Number of Kinetworks™ screens – 1 sample, Confidential	.1 @ \$885 U.S. per screen \$ @ \$1498 U.S. per screen + \$
Custom Screen: KCPS 1.0 (18 antibodies per screen – 1 sample) Number of Kinetworks [™] screens – 1 sample, Non-confidential Number of Kinetworks [™] screens – 1 sample, Non-confidential Number of Kinetworks [™] screens – 1 sample, Confidential Number of Kinetworks [™] screens – 1 sample, Confidential *Special pricing applies only if the sample has been previously analyzed with a	e) @ \$649 U.S. per screen*+ \$ @ \$799 U.S. per screen + \$ @ \$1098 U.S. per screen*+ \$ @ \$1498 U.S. per screen + \$ KAM or KSAM antibody microarray.
Custom Screen: KCSS 1.0 (1- 3 antibodies per screen & up to Number of Kinetworks [™] screens – 1 antibody, Non-confidential Number of Kinetworks [™] screens – 2 antibodies, Non-confidential Number of Kinetworks [™] screens – 3 antibodies, Non-confidential Number of Kinetworks [™] screens – 1 antibody, Confidential Number of Kinetworks [™] screens – 2 antibodies, Confidential Number of Kinetworks [™] screens – 2 antibodies, Confidential Number of Kinetworks [™] screens – 3 antibodies, Confidential Total number of samples submitted with this order: Output	8 samples) (a) \$649 U.S. per screen + \$ (a) \$749 U.S. per screen + \$ (a) \$849 U.S. per screen + \$ (a) \$1098 U.S. per screen + \$ (a) \$1298 U.S. per screen + \$ (a) \$1298 U.S. per screen + \$ (a) \$1298 U.S. per screen + \$ (a) \$1498 U.S. per screen + \$
Quotation or Reference Number:	
FOR CANADIAN CUSTOMERS ONLY: Add an additional 7% to the above total for GST (No. 893907329 RT0001): + PAYMENT METHOD PURCHASE ORDER ACCEPTED FROM COMPANIES AND INSTITUTES WITH APPR	$\frac{\$}{100000000000000000000000000000000000$
VISA OR MASTERCARD	
Print Cardholder Name Visa Number BILLING INFORMATION SEND INVOICE TO CUSTOMER AT ABOVE AI	DDRESS OR C SEND INVOICE TO ACCOUNTS PAYABLE CONTACT:
Accounts Payable Contact Name	Company Name or Institute
ireet Address	City
iate or Province Country Zip or Postal Code AUTHORIZATION CUSTOMER HAS READ THE KINEXUS SERVICE AGREEMENT AND AGREES TO BE BOU!	(Area Code) Telephone Number ND BY THE TERMS AND CONDITIONS:

Print Name of Authorized Representative or Principal Investigator Authorized Signature Date (m/d/y) How did you originally hear about the KinetworksTM Services? Direct Mail Email Web Site Advertisement Referral Conference or Trade Show Other



Form: KWS-SIF-01

KINETWORKS™ STANDARD SCREEN

SERVICE IDENTIFICATION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME:

(Authorized Representative or Principal Investigator)

COMPANY/INSTITUTE:

STANDARD KINETWORKSTM SCREENING SERVICE REQUESTED: (WITH CLIENT LYSATES AND KINEXUS ANTIBODIES)

Use this form to select one of the Standard Kinetworks[™] multi-immunoblotting screens offered by Kinexus. Do not use this form for any of the Custom Kinetworks[™] KCPS 1.0 or KCSS 1.0 screens. Please check the appropriate tick boxes. If you need assistance completing this form, please contact a technical service representative by calling toll free in North America 1-866-KINEXUS (866-546-3987) or by email at <u>info@kinexus.ca</u>.

STANDARD SERVICE REQUESTED: KPSS-1.3, 10.1, 11.0 + 12.1 Standard Multi-Antibody (37-44) and Single (1) Sample Screen 500 µg protein for each cell or tissue lysate sample is required	KINEXUS ID NUMBER (Bar Code Identification Number) For Kinexus Internal Use Only.	A. CLIENT SCREEN ID NAME: Customer ID: Provide ID name of your choice for your reference and for use in Box A of the "Client-Supplied Non-confidential Sample Description" (KW-NSDF-01) and "Client- Supplied Confidential Sample Description" (KW-CSDF- 01) forms.
B. KINETWORKS™ SCREEN SELECTION:		C. SAMPLE IDENTIFICATION:
 Kinexus offers 4 Standard Kinetworks™ Phosphosite Screening services: Choose only of one the following screens on each "Kinetworks™ Standard Screen Antibody Identification Form" (KWS-AIF-01). KPSS 1.3 (500 µg) Broad Phosphosite Screen (38 antibodies) 		For a client supplied sample, please complete a "Client- Supplied Non-confidential Sample Description Form" (KW-NSDF-01) or a "Client-Supplied Confidential Sample Description Form" (KW-CSDF-01).
Broad Phosphosite Screen (38 antibodies) KPSS 10.1 (500 μg) Cell Cycle Protein Phosphosite Screen (44 antibodies) KPSS 11.0 (500 μg) Protein Kinase Phosphosite Screen (37 antibodies) KPSS 12.1 (500 μg) Non-kinase Phosphosite Screen (40 antibodies)		D. PRICING: Non-confidential, probed with 29-44 antibodies Confidential, probed with 29-44 antibodies \$1498 US Use this pricing information for completion and
		Use this pricing information for completion and submission of Service Order Form KW-SOF-01.

Name of person completing this form

Signature

Date (m/d/y)



Form: KCPS-SIF-01

CUSTOM KINETWORKS™ KCPS 1.0 SCREEN

SERVICE IDENTIFICATION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME:

COMPANY/INSTITUTE: (Authorized Representative or Principal Investigator)

CUSTOM KINETWORKSTM SCREENING SERVICE REQUESTED: (WITH CLIENT LYSATES AND KINEXUS ANTIBODIES)

Clients have the option of choosing antibodies provided by Kinexus or their own antibodies, or any combination thereof. Please refer to Appendix F for the selection of any eighteen (18) antibodies from the in-house inventory of antibodies available from Kinexus for immunoblotting analysis. For each selected antibody, provide the appropriate ID codes from Appendix F as well as the names of the protein targets (and phospho-sites sites if applicable). Clients may also provide their own antibodies of this immunoblotting service if they fully disclose on accompanying KW-CADF-01 forms the nature of the probing antibodies (including immunogen sequence, the animal species in which the antibody was produced as well as manufacturer's name and catalogue number if it is commercially sourced). If clients are selecting antibodies for validation of results from a previous Kinex™ antibody microarray analysis, they are eligible for a 27% discount if they provide the previous Kinexus Order Number. Please check the appropriate tick boxes.

CUSTOM SERVICE REQUESTED:
KCPS-1.0
Custom Multi-Antibody (18) and Single (1) Sample
Screen

500 µg protein for each cell or tissue lysate is required

KINEXUS ID NUMBER

For Kinexus Internal Use Only.

A. CLIENT SCREEN ID NAME:

Customer ID:

Provide ID name of your choice for your reference and for use in Box A of "Client-Supplied Sample Description" (KW-NSDF-01, KW-CSDF-01) and "Client-Supplied Antibody Description (KW-CADF-01) forms.

B. ANTIBODY SELECTION:

Antibodies should be listed in the order that you want them to be used to probe the SDS-PAGE gel from left to right. For Kinexus supplied antibodies, record the appropriate ID codes from Appendix F. To reduce the risk of error. please also provide the abbreviated name of the protein target of the antibody and, if applicable, the desired phosphorylation site. If you are using this service to follow up on previous Kinex or Kinetworks™data, use the ID Code provided with the results of your previous order or contact our Technical Services Representatives. If clients wish to include antibodies of their own, please provide the client name for each antibody that has been entered into Box B from the completed and attached "Client-Supplied Antibody Description" (KW-CADF-01) forms. Kinexus may change the order of these antibodies to improve the accuracy of detection if deemed necessary.

Lane 1.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 2.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 3.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 4.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 5.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 6.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 7.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 8.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 9.	Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 10	. Given Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 11	. 🗅 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 12	. 🗆 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 13	. 🗆 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 14	. 🖵 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 15	. 🖵 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 16	. 🛛 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 17	. 🗆 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	
Lane 18	. 🖵 Kinexus ID Code:	Protein name:	Phospho-site:
	Client supplied.	Client name for antibody	

C. SAMPLE IDENTIFICATION:

For a client supplied sample, please complete a "Client-Supplied Non-confidential Sample Description Form" (KW-NSDF-01) or a "Client-Supplied Confidential Sample Description Form" (KW-CSDF-01). 500 ug of cell or tissue lysate protein are required for the KCPS-1.0 screen.

If this sample has been analyzed before on a Kinex™ KAM or KSAM antibody microarray, please also provide the previous Kinexus Order Number in order to qualify for a 27% discount off of our regular pricing. It is important if you are using this service to follow up on previous Kinex™ or Kinetworks™data. that you use the ID Codes in Section B that were provided with the results of your previous order or you should contact our Technical Services Representatives.

Kinexus Order Number Previous Kinex[™] Analysis:

Previous Kinetworks[™] Analysis:

D. PRICING:

□ Non-confidential, previously analyzed by Kinex^{™*} \$649 US

- Non-confidential, probed with 18 antibodies \$799 US
- □ Confidential, previously analyzed by Kinex^{™*} \$1098 US
- Confidential, probed with 18 antibodies \$1498 US

* Box C must be completed with the Kinexus Order Number of the previous Kinex[™] KAM antibody microarray analysis.

Use this pricing information for completion and submission of Service Order Form: KW-SOF-01.



Form: KCSS-SIF-01

CUSTOM KINETWORKS™ KCSS 1.0 SCREEN

SERVICE IDENTIFICATION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

COMPANY/INSTITUTE:

CUSTOM KINETWORKSTM SCREENING SERVICE REQUESTED: (WITH CLIENT LYSATES AND KINEXUS ANTIBODIES)

Clients have the option of using their own prepared cell/tissues lysate samples and antibodies provided by Kinexus or their own antibodies, or any combination thereof. Please refer to Appendix H for the selection of one (1) to three (3) antibodies from the in-house inventory of antibodies available from Kinexus for immunoblotting analysis. For each selected antibody, provide the appropriate ID codes from Appendix F as well as the names of the protein targets (and phosphorylation sites if applicable). Clients may also provide their own antibodies for this immunoblotting service if they fully disclose on accompanying KW-CADF-01 forms the nature of the probing antibodies (including immunogen sequence, the animal species in which the antibody was produced as well as manufacturer's name and catalogue number if it is commercially sourced). For selection of 2 or 3 probing antibodies, the selected target proteins must be easily resolvable (see Section C). Please check the appropriate tick boxes. If Clients wish to use pre-made cell/tissue lysates from Kinexus, they should refer to the "In Vivo Services Customer Information Package."

CUSTOM SERVICE REQUESTED: KCSS-1.0 Custom Multi-Sample (8) and Antibody (1-3) Screen 50 µg protein for each cell or tissue lysate sample is required	KINEXUS ID NUMBER (<i>Bar Code Identification Number</i>) For Kinexus Internal Use Only.	A. CLIENT SCREEN ID NAME: Customer ID: Use this ID name of your choice for your internal reference and for use in Box A of Client-Supplied Sample Description Forms (KW-NSDF-01, KW-CSDF-01) and Client-Supplied Antibody Description Forms (KW-CADF-01).	
B. SAMPLE SELECTION: Samples should be listed in the order that you want these samples to be deposited on the SDS-PAGE gel from left to right. For each lane, please provide the client name for each sample that has been entered into Box B from the completed and attached "Client-Supplied Non-Confidential Sample Description" (KW-NSDF-01) or the Client-Supplied Confidential Sample Description" (KW-CSDF-01) forms. Lane 1 . Client name for sample		C. ANTIBODY SELECTION: If more than one antibody is selected for probing, then the target proteins must be resolved by at least 15 KDa for shared molecular masses less than 50 KDa, at least 25 KDa for shared molecular masses between 50 kDa and 100 kDa, and no more than one target protein should have a molecular masses exceeding 100 kDa. Record information for selected Kinexus antibodies from Appendix H (highlighted in yellow). If you are using this service to follow up on previous Kinex™ or Kinetworks™data, use the ID Code provided with the results of your previous order or contact our Technical Services Representatives. If any antibodies are to be provided by the client, please complete a "Client-Supplied Antibody Description Form" (KW-CADF-01) for each antibody and provide the Client name for the antibody that is entered in Box B of these forms. Antibody #1 Ninexus supplied ID Code: Protein target name: Phospho-site (if appropriate):	
D. PRICING: Non-confidential, probed with 1 antibody \$6 Non-confidential, probed with 2 antibodies \$7 Non-confidential, probed with 3 antibodies \$8 Confidential, probed with 1 antibody \$10 Confidential, probed with 2 antibodies \$12 Confidential, probed with 3 antibodies \$14 Use this pricing information for completion and subreases	649 US 749 US 149 US 198 US 198 US 198 US nission of Service Order Form: KW-SOF-01.	Image: Client supplied ID Code: Protein target name: Phospho-site (if appropriate): Image: Client supplied Client name for antibody Antibody #3 ID Code: Image: Kinexus supplied ID Code: Protein target name: Phospho-site (if appropriate): Image: Client supplied Client name for antibody*	

I hereby certify that all of the information about cell/tissue samples and antibodies that I provided in this order is correct and accurate to the best of my knowledge.

NAME:

(Authorized Representative or Principal Investigator)



Form: KW-NSDF-01

CLIENT SUPPLIED

NON-CONFIDENTIAL SAMPLE DESCRIPTION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME:

COMPANY/INSTITUTE:

Non-Confidential Services Requested and Sample Details:

(Authorized Representative or Principal Investigator)

Please refer to the KinetworksTM Sample Preparation Protocol for details on preparing your samples. Clients are required to complete all Sections A-K to qualify for the non-confidential pricing level of the KinetworksTM standard and custom screens. If sample details are to remain confidential, please complete instead the "Client Supplied Confidential Sample Description Form" (KW-CSDF-01) in Sections A-C. If you need assistance completing this form, please contact a technical service representative by calling toll free in North America 1-866-KINEXUS (866-546-3987) or by email at info@kinexus.ca.

A. CLIENT SCREEN ID NAME + KINETWORKS™ SCREEN NAME:	B. SAMPLE IDENTIFICATION:		
CLIENT ID: KINETWORKS™ SCREEN:	Client Name for Sample: Control: Q Yes Q No		
Use the Client Screen ID Name that you entered on the "Kinetworks™Standard	Concentration: Volume:		
Screen Service Identification Form" (KW-SIF-01), "Custom Kinetworks™ KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks™ KCSS	Clients should provide at least 50 µg (KCSS only) or 500 µg		
Screen Identification Form" (KCSS-SAIF-01)	(all other Kinetworks™ screens) of protein at a concentration ≥ 1 mg/ml		
C. SPECIES:	KINEXUS ID NUMBER (FOR INTERNAL USE ONLY)		
Human (Homo sapiens) Sex: Male Female M/F pooled Unknown	(Bar Code Identification Number)		
Rat (Rattus norvegicus) # Animals: Age: Weight:			
Mouse (Mus musculus)			
Other – Provide scientific & common name:	Tissues: Yes No If yes, proceed to Section E		
	Cells: Yes No If yes, proceed to Section F		
E. TISSUES:	F. CELLS: Is your sample a primary culture?		
A. Organ source of tissue:	Is your sample an established cell line? $lacksquare$ Yes $lacksquare$ No		
B. Tissue name:	A. Name of cell line:		
C. Disease condition if appropriate:	B. Organ source of cells:		
	D. Disease condition if appropriate:		
G. CELL STATE: N/A Subconfluent Quiescent Confluent Scenescent Proliferating Apoptosing Differentiated Stressed	ysate I. PERTURBATION: bilized) Normal untreated If yes, proceed to Section K v or ligand used: Diseased untreated If yes, proceed to Section K Diseased treated If yes, proceed to Section J Diseased treated If yes, proceed to Section J Diseased treated If yes, proceed to Section J		
J. IREATMENTS: Please indicated if you used combined [CMB] or seque	ential [SEQ] treatments and provide details on your treatment:		
Name of compound/stimuli: Cor			
2. Name of compound/stimuli:			
Details of treatment:			
K. ADDITIONAL SAMPLE INFORMATION: Please include any additional information that differentiates your samples:			
Transgenic: 🖸 Yes 🗖 No 🛛 Knockout: 🗬 Yes 🗖 No 🤍 Wildtype: 🗬 Yes 📮 No Transfected/Over-expressed: 🖨 Yes 📮 No Mutant: 🗬 Yes 📮 No			
If you answered yes to any of the above, please specify details including if there was any	deprivation (such as serum/growth factor/drug/site of mutation) prior to treatment:		

I hereby certify that all the sample information provided in this order is correct and accurate to the best of my knowledge. To qualify for the non-confidential pricing level, I agree that all Sections A-K must be completed in full otherwise the confidential pricing level will be applied. I further acknowledge that I may be contacted by a Kinexus representative for additional information if any section is unclear.



Form: KW-CSDF-01

CLIENT SUPPLIED

CONFIDENTIAL SAMPLE DESCRIPTION FORM

Subject to terms of the Kinexus Service Agreement

KINEXUS ORDER NUMBER

NAME:

COMPANY/INSTITUTE:

Confidential Service Requested and Sample Details:

(Authorized Representative or Principal Investigator)

Please refer to the "KinetworksTM Sample Preparation Protocol" for details on preparing your samples. Clients are required to complete Sections A-C for a confidential analysis with the KinetworksTM standard and custom screens. Note that a confidential analysis is performed at a higher pricing level than a non-confidential analysis. Clients should instead complete all of Sections A-C on the "Client Supplied Non-Confidential Sample Description Form" (KW-NSDF-01) to qualify for the non-confidential pricing. If you need assistance completing this form, please contact a technical service representative by calling toll free in North America 1-866-KINEXUS (866-546-3987) or by email at info@kinexus.ca.

A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] SCREEN: Use the Client Screen ID Name that you entered on the "Kinetworks [™] Standard Screen Service Identification Form" (KW-SIF-01), "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SIF-01) C. SPECIES: Human (Homo sapiens) Sex: Male Female MVF pooled Unknown	B. SAMPLE IDENTIFICATION: Client Name for Sample: Control: Yes No Concentration: Volume: Volume: Clients should provide at least 50 µg (KCSS only) or 500 µg (all other Kinetworks™screens) of protein at a concentration ≥ 1 mg/ml KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number)
Rat (Rattus norvegicus) # Animals: Age: Weight: Mouse (Mus musculus) Other – Provide scientific & common name:	
A. CLIENT SCREEN ID NAME + KINETWORKS™ SCREEN NAME: CLIENT ID: KINETWORKS™ SCREEN:	B. SAMPLE IDENTIFICATION: Client Name for Sample: Control: Yes No
Use the Client Screen ID Name that you entered on the "Kinetworks™Standard Screen Service Identification Form" (KW-SIF-01), "Custom Kinetworks™ KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks™ KCSS Screen Identification Form" (KCSS-SIF-01)	Concentration: Volume: Clients should provide at least 50 μg (KCSS only) or 500 μg (all other Kinetworks™screens) of protein at a concentration ≥ 1 mg/ml
 C. SPECIES: Human (Homo sapiens) Sex: Male Rat (Rattus norvegicus) # Animals: Age: Weight: Mouse (Mus musculus) Other - Provide scientific & common name: 	(FOR INTERNAL USE ONLY) (Bar Code Identification Number)
A. CLIENT SCREEN ID NAME + KINETWORKS™ SCREEN NAME:	B. SAMPLE IDENTIFICATION:
CLIENT ID: KINETWORKS™ SCREEN: Use the Client Screen ID Name that you entered on the "Kinetworks™Standard Screen Service Identification Form" (KW-SIF-01), "Custom Kinetworks™ KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks™ KCSS Screen Identification Form" (KCSS-SIF-01)	Client Name for Sample: Control: ☐ Yes ☐ No Concentration: Volume: Clients should provide at least 50 µg (KCSS only) or 500 µg (all other Kinetworks™screens) of protein at a concentration ≥ 1 mg/ml
C. SPECIES: Human (Homo sapiens) Sex: Male Female M/F pooled Unknown Rat (Rattus norvegicus) # Animals: Age: Weight: Mouse (Mus musculus) Other – Provide scientific & common name:	KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number)

I hereby certify that all the sample information provided in this order is correct and accurate to the best of my knowledge. I further acknowledge that I may be contacted by a Kinexus representative for additional information if any section is unclear.



CLIENT-SUPPLIED ANTIBODY DESCRIPTION FORM

Subject to terms of the Kinexus Service Agreement

Form: KW-CADF-01

KINEXUS ORDER NUMBER

(Authorized Representative or Principal Investigator)

NAME:

COMPANY/INSTITUTE:

CUSTOM KINETWORKSTM SCREENING SERVICE REQUESTED: (WITH CLIENT ANTIBODIES)

Clients have the option of using their own antibodies for Kinetworks[™] analysis if they fully describe the nature of the probing antibodies (including immunogen sequence, the animal species in which the antibody was produced as well as manufacturer's name and catalogue number if it is commercially sourced). Please note that in the event that clients do not wish to disclose the source or nature of the antibodies that they are providing, then Confidential Pricing must apply. Clients must still complete Sections A to C for Confidential analyses. Please check the appropriate tick boxes.

A. CLIENT SCREEN ID NAME + KINETWORKS™ SCREEN NAME:	B. ANTIBODY IDENTIFICATION:
CLIENT ID [.] KINETWORKS™ □ KCPS-1.0	Client Name for Antibody:
SCREEN CKCSS-1.0	Concentration: Volume:
Use the Client Screen ID Name that you entered in Box A on the "Custom	Recommended dilution for Western blotting:
Kinetworks™ KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks™ KCSS Screen Identification Form" (KCSS-SAIF-01)	Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS-1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS-1.0 blot
C. SPECIES OF ANTIBODY ORIGIN AND TYPE:	KINEXUS ID NUMBER (FOR INTERNAL USE ONLY)
Rabbit Monoclonal	(Bar Code Identification Number)
Mouse Polyclonal	D. COMMERCIAL SOURCE OF ANTIBODY (if applicable)
Goat	Supplier Name:
Human	Supplier Catalog Number:
Other – Provide common name:	Supplier Lot Number:
E. IMMUNOGEN INFORMATION:	F. AMINO ACID SEQUENCE OF IMMUNOGEN
Species of origin of protein or peptide sequence:	
Protein: 🛛 Yes Protein Name:	
Peptide: Yes If yes, please go to Box F and provide the amino acid sequence of the immunizing peptide if it is known	
A. CLIENT SCREEN ID NAME + KINETWORKS™ SCREEN NAME:	B. ANTIBODY IDENTIFICATION:
	B. ANTIBODY IDENTIFICATION: Client Name for Antibody:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] □ KCPS 1.0 SCREEN □ KCSS 1.0	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN CLIENT Screen ID Name that you entered in Box A on the "Custom	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Wolume: Recommended dilution for Western blotting:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] CCPS 1.0 SCREEN CCPS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01)	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE:	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY)
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Concentration: Volume: Recommended dilution for Western blotting: Volume: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number)
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCPS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Concentration: Volume: Recommended dilution for Western blotting:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] CCPS 1.0 SCREEN CCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Concentration: Volume:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat Human	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number) D. COMMERCIAL SOURCE OF ANTIBODY (if applicable) Supplier Name:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat Human Other – Provide common name:	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number) (FOR INTERNAL USE ONLY) Supplier Name:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat Human Other – Provide common name: E. IMMUNOGEN INFORMATION:	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number) D. COMMERCIAL SOURCE OF ANTIBODY (if applicable) Supplier Name:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat Human Other – Provide common name: E. IMMUNOGEN INFORMATION: Species of origin of protein or peptide sequence:	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number) (FOR INTERNAL USE ONLY) Supplier Name:
A. CLIENT SCREEN ID NAME + KINETWORKS [™] SCREEN NAME: CLIENT ID: KINETWORKS [™] KCPS 1.0 SCREEN KCSS 1.0 Use the Client Screen ID Name that you entered in Box A on the "Custom Kinetworks [™] KCPS Screen Identification Form" (KCPS-SIF-01) or "Custom Kinetworks [™] KCSS Screen Identification Form" (KCSS-SAIF-01) C. SPECIES OF ANTIBODY ORIGIN AND TYPE: Rabbit Monoclonal Mouse Polyclonal Goat Human Other – Provide common name: E. IMMUNOGEN INFORMATION: Species of origin of protein or peptide sequence: Protein: Yes Protein Name:	B. ANTIBODY IDENTIFICATION: Client Name for Antibody: Concentration: Volume: Recommended dilution for Western blotting: Clients should provide at least enough antibody for making 500 µl of antibody solution at the desired titre per KCPS 1.0 blot lane, and 5 ml of antibody solution of the desired titre of antibody per KCSS 1.0 blot KINEXUS ID NUMBER (FOR INTERNAL USE ONLY) (Bar Code Identification Number) D. COMMERCIAL SOURCE OF ANTIBODY (if applicable) Supplier Name:

I hereby certify that all of the information about cell/tissue samples and antibodies that I provided in this order is correct and accurate to the best of my knowledge.

COMMERCIAL INVOICE

DATE OF EXPORTATION	EXPORT REFERENCES
	(Not required)
SHIPPER/EXPORTER	CONSIGNEE
	Kinexus Bioinformatics Corporation 8755 Ash Street, Suite 1 Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Facsimile: (604) 323-2548 Email: info@kinexus.ca
COUNTRY OF EXPORT	TERMS OF SALE
	Not for resale, sample for analysis
COUNTRY OF ORIGIN	PURPOSE
	Research and development
COUNTRY OF ULTIMATE DESTINATION	EXPORTING CARRIER
Canada	

INTERNATIONAL AIR WAYBILL NUMBER

NO. OF PKGS	TYPE OF PACKAGING	QUANTITY OF SAMPLES	COMPLETE AND ACCURATE COMMODI	TY DESCRIPTION	UNIT VALUE
	 FedEx Letter FedEx Pak Box Other 	Total number of 1.5 ml Eppendorf tubes:	Non hazardous, non infectious packaged in 1.5 ml tubes f development testing purposes. S resale and there is no commercial	protein samples or research and amples are not for value.	\$1.00 per sample
тот	TAL NO. OF PAC	KAGES	TOTAL WEIGHT OF PACKAGES	TOTAL DECLARE	D VALUE
				\$	

These commodities were exported from the Country indicated above in accordance with the Export Administration Regulations and are licensed for the ultimate designation shown. It is hereby certified that this commercial invoice shows the actual price of the goods described, that no other invoice has been or will be issued for these goods, and that all particulars are true and correct.

SIGNATURE AND STATUS OF AUTHORIZED PERSON

Print Name

Title

Authorized Signature

Date (month/day/year)

INCLUDE THREE (3) COPIES OF THIS INVOICE WITH YOUR SHIPMENT

COMMERCIAL INVOICE

DATE OF EXPORTATION	EXPORT REFERENCES
	(Not required)
SHIPPER/EXPORTER	CONSIGNEE
	Kinexus Bioinformatics Corporation 8755 Ash Street, Suite 1 Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Facsimile: (604) 323-2548 Email: info@kinexus.ca
COUNTRY OF EXPORT	TERMS OF SALE
	Not for resale, sample for analysis
COUNTRY OF ORIGIN	PURPOSE
	Research and development
COUNTRY OF ULTIMATE DESTINATION	EXPORTING CARRIER
Canada	

INTERNATIONAL AIR WAYBILL NUMBER

NO. OF PKGS	TYPE OF PACKAGING	QUANTITY OF SAMPLES	COMPLETE AND ACCURATE COMMODI	TY DESCRIPTION	UNIT VALUE
	 FedEx Letter FedEx Pak Box Other 	Total number of 1.5 ml Eppendorf tubes:	Non hazardous, non infectious p and development diagnostic purp not for resale and there is no com Samples are packaged on Dry 1845, Group 3 (Xkgs)	rotein for research oses. Samples are mercial value. Ice, Class 9, UN	\$1.00 per sample
TOTAL NO. OF PACKAGES		KAGES	TOTAL WEIGHT OF PACKAGES	TOTAL DECLARE	D VALUE
				\$	

These commodities were exported from the Country indicated above in accordance with the Export Administration Regulations and are licensed for the ultimate designation shown. It is hereby certified that this commercial invoice shows the actual price of the goods described, that no other invoice has been or will be issued for these goods, and that all particulars are true and correct.

SIGNATURE AND STATUS OF AUTHORIZED PERSON

Print Name

Title

Authorized Signature

Date (month/day/year)

INCLUDE THREE (3) COPIES OF THIS INVOICE WITH YOUR SHIPMENT



SERVICE AGREEMENT NO.

PROTEOMICS SERVICES AGREEMENT

This Agreement is entered into effective as of the Effective Date by and between Kinexus Bioinformatics Corporation ("**Kinexus**"), a Canadian corporation with a principal place of business at Suite 1, 8755 Ash Street, Vancouver, British Columbia, Canada, V6P 6T3 **AND** the corporation or other entity ("**Customer**") having the following name and business or institution address:

RECITALS

WHEREAS Kinexus is a bioinformatics company employing proprietary proteomics and bioinformatics services to create and interpret data to map protein signalling networks and compile databases with this knowledge to enable disease biomarker and therapeutics discovery.

WHEREAS the Customer desires to have Kinexus perform standard and/or customized proteomics services with materials and/or information provided by the Customer.

WHEREAS Kinexus is willing to provide these proteomics services under the terms and conditions set forth herein.

THEREFORE, in consideration of the premises and covenants and agreements contained herein, and other good and valuable consideration the receipt and sufficiency of which is hereby acknowledged, Kinexus and the Customer agree as follows:

1. **DEFINITIONS**

1.1 "<u>Academic Collaborator</u>" means a principal investigator, employed at a university or other not-forprofit academic research institution.

1.2 <u>"Affiliate"</u> means any corporation or other entity that directly or indirectly controls, is controlled by or is under common control with a party to this Agreement. A corporation or other entity shall be regarded as in control of another corporation or entity if it owns or directly or indirectly controls more than fifty percent (50%) of the outstanding voting stock or other ownership interest of the other corporation or entity.

1.3 <u>"Corporate Partner"</u> means any Third Party which enters into an agreement with the Customer or its Affiliates involving the grant to such Third Party of rights for the development or commercialization of a product that was discovered, identified, selected, characterized or determined to have therapeutic or diagnostic use through use of the Proteomics Analyses provided to the Customer pursuant to this Agreement.

1.4 <u>"Confidential Information</u>" means any information or data received by a party (the "Receiving Party") from the other party (the "Disclosing Party") in connection with the performance of this Agreement that, if

disclosed in writing, is marked or otherwise identified by the Disclosing Party as confidential or, if disclosed orally is identified in writing by the Disclosing Party as confidential within ten (10) days following the disclosure. Confidential Information shall not include any information or data that the Receiving Party can demonstrate:

- (a) was generally available to the public before its disclosure to the Receiving Party or became generally available to the public after its disclosure to the Receiving Party, provided that such information or data did not become generally available to the public by means of an unauthorized act or omission of the Receiving Party;
- (b) was already in the possession of the Receiving Party before its disclosure under this Agreement, as demonstrated by Receiving Party's written records, provided that such information or data was not obtained directly or indirectly from the Disclosing Party under an obligation of confidentiality;
- (c) was disclosed to the Receiving Party, whether before or after its disclosure under this Agreement, by a Third Party, provided that such information or data was not obtained directly or indirectly from the Disclosing Party under an obligation of confidentiality; or
- (d) was independently developed or discovered by employees or agents of the Receiving Party without any use of Confidential Information of the Disclosing Party as demonstrated by Receiving Party's written records.

All of the Proteomics Services technologies provided by Kinexus will be deemed to have been identified as proprietary and considered the Confidential Information of Kinexus.

1.5 <u>"Contact"</u> means the contact person of the Customer that is designated on the Service Order Forms, who is deemed to have the authority to deliver Samples, Service Order Forms, Service Information Forms, and Sample Description Forms to Kinexus, on behalf of the Customer, under this Agreement.

1.6 <u>"Proteomics Analyses"</u> means one or more of the Custom and Standard Proteomics Services offered by Kinexus that may permit the identification and/or quantification of proteins, their phosphorylation states, their interactions with proteins, peptides, and other compounds, and the regulation of their functional activities by these agents.

1.7 <u>"Proteomics Products"</u> means the products of the Custom Proteomics Services offered by Kinexus to manufacture one or more proteins using recombinant DNA technology, and designer peptides by chemical synthesis.

1.8 <u>"Sample"</u> means a lysate or semi-purified fraction from cells and tissues, a protein, and/or a compound provided to Kinexus by the Customer, which the Customer has prepared and shipped in a manner that it can be properly used by Kinexus for the Proteomics Analyses. Samples for Proteomics Analyses may also be provided by Kinexus at the request of the Customer.

1.9 <u>"Sample Description Form"</u> means the Kinexus form to be completed by the Customer to provide information on the nature of each Sample submitted for the Proteomics Analyses. It is included in the Proteomics Services Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.10 <u>Antibody</u>" means the immunoglobulin reagent that permits detection of a target protein or phosphorylation site.

1.11 <u>"Antibody Description Form"</u> means the Kinexus form to be completed by the Customer to provide information on the nature of each Antibody submitted by the Customer for the Proteomics Analyses. It is included

in the Proteomics Services Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.12 "<u>Service Order Form</u>" means the Kinexus form to be completed by the Customer to provide Kinexus with the Customer's contact and billing information for the Proteomics Analyses or Proteomics Products. This form indicates the level of confidentiality requested by the Customer. It is included in the Proteomics Services Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.13 "<u>Service Information Form</u>" means the Kinexus form to be completed by the Customer to provide Kinexus with a specific listing of the Samples to be tested for the Proteomics Analysis or a specific description of the Proteomics Products that are requested. It is included in the Proteomics Services Customer Information Package with this Agreement, and may be amended from time to time as updated on the Kinexus website.

1.14 <u>"Report"</u> means the underlying raw data and the report provided to The Customer hereunder consisting of the Proteomic Analyses of Samples, including, but not limited to tables of the experimental results. For Proteomics Products, the Report may include raw data confirming the composition and purity of the Proteomics Products.

1.15 <u>"Field of Use"</u> means use by Kinexus and its Affiliates and Academic Collaborators of data from the Report for research and commercial purposes relating to the creation and interpretation of knowledge about the composition, architecture and operation of cell signalling networks, improving its Proteomics Services, and the compilation of databases that may become accessible to Third Parties on-line over the Internet.

1.16 <u>"Third Party"</u> means any entity other than Kinexus', Kinexus' Affiliates, the Customer and the Customer's Affiliates.

1.17 <u>"Effective Date"</u> means the date of the last signature on this Agreement.

2. REQUEST FOR AND DELIVERY OF PROTEOMICS SERVICES

2.1 <u>Request for Proteomics Services.</u> From time to time, over the Term of this Agreement (as defined in Section 6.1 herein), the Customer can engage Kinexus to provide its Proteomics Analyses or Proteomics Products. After submission of a quotation from Kinexus to the Customer, by delivery to Kinexus of a Service Order Form, a Service Information Form and a Sample Description Form with Samples as appropriate, the Customer hereby requests and authorizes Kinexus to perform Proteomics Services and deliver the results of these services to the Customer, pursuant to the terms and conditions in this Agreement. In the case of Customer requested Proteomics Analyses, this would include the delivery of a Report. In the case of Customer requested Proteomics Products, this would include the delivery of the Proteomics Products and a Report.

2.2 <u>Representation and Warranty</u>. The Customer represents and warrants that: (a) it has all right and authority to provide the Sample to Kinexus for analysis under the terms and conditions of this Agreement, (b) it collected the Sample lawfully and with all necessary consents and approvals, and (c) that the collection, use and disclosure of the Sample by Kinexus pursuant to this Agreement will not violate the rights of any Third Party.

2.3 <u>Delivery Conditions for Customer Sample.</u> The Customer shall be responsible for making shipping arrangements to deliver Samples to Kinexus. The Customer shall also be responsible for complying with all applicable laws and regulations (including but not limited to customs requirements and relevant handling procedures and protocols) and obtaining any and all permits, forms or permissions that may be required by all regulatory authorities to ship and deliver the Sample, to Kinexus and for Kinexus to accept delivery of the Sample.

2.4 <u>Processing and Delivery of Report and Proteomics Products.</u> Subject to the terms of this Agreement, Kinexus shall analyze Samples with the Customer-specified Proteomics Services or produce Customer-specified Proteomics Products, and deliver a Report to the Customer as requested on the Service Order Form and Service Information Form.

2.5 <u>Quality of Samples for Proteomics Analyses.</u> Kinexus shall not deliver a Report on any Sample that Kinexus, in its sole discretion, believes has not been prepared and delivered in a manner that would compromise its ability to provide a reliable result. Under such a circumstance, the Sample will be destroyed by Kinexus after ten (10) days notification by e-mail to the Customer or at the request of the Customer prior to the scheduled destruction of the Sample, it will be returned to the Customer provided that the Customer agrees to reimburse Kinexus for the courier costs for its delivery.

3. PAYMENTS

3.1 <u>Payments for Proteomics Services</u>. For each Proteomics Analyses and Proteomics Product requested under this Agreement, the Customer shall pay to Kinexus a fee in accordance with the amount specified on the Service Order Form and the Service Identification Form for the requested service, which may be amended from time to time as updated on Kinexus' website. This amount will be based on a formal quotation issued by Kinexus to the Customer. In the absence of a formal quotation, the pricing will be based on the pricing specified in the latest versions of the Customer Information Packages for Proteomics Services that are downloadable from the Kinexus website (www.kinexus.ca). The category of pricing depends on the level of requested confidentiality for analysis:

- (a) <u>Non-Confidential Analyses</u>. If the Samples are provided by the Customer, then all of the Sample information on the Client Supplied Non-Confidential Sample Description Form is completed and is not designated as Confidential Information on the Service Identification Form. If Antibodies are supplied by the Customer, then all of the Antibody information on the Client Supplied Antibody Description Form (see example in Appendix) must be completed and is not designated as Confidential Information Form.
- (b) <u>Confidential Analyses</u>. If the Samples are provided by the Customer, then all of the Sample information on the Client Supplied **Confidential** Sample Description Form must be completed and **is** designated as Confidential Information on the Service Identification Form.

3.2 The Customer shall issue a purchase order or provide a charge account at the time the Customer sample arrives at Kinexus' offices at Suite 1, 8755 Ash Street, Vancouver, British Columbia, Canada, V6P 6T3. Kinexus will invoice Customer when the Proteomics Analyses or Proteomics Products are complete and delivered to Customer. Payment terms are net 30 days from date of invoice.

3.3 <u>Interest on Late Payments.</u> Any overdue payments by the Customer to Kinexus under this Agreement shall bear interest, to the extent permitted by applicable law at 18% per annum, calculated on the total number of days payment is delinquent; provided, however, that interest shall not accrue pursuant to this Section 3.3 on any amounts payable under this Agreement with respect to which payment is disputed in good faith; provided, further that interest shall accrue pursuant to this Section 3.3 once such dispute has been resolved if payment is not made promptly thereafter.

4. INTELLECTUAL PROPERTY RIGHTS

4.1 <u>Ownership of Sample Information</u>. The Customer owns all rights to the Sample information provided to Kinexus. For Non-Confidential Proteomics Analyses, the Customer grants Kinexus a non-exclusive, royalty-free fully paid up worldwide perpetual license to use, copy, publish, compile, display, communicate, modify, translate and otherwise exploit (and authorize Third Parties to do any of the foregoing) to use the information on the Client Supplied **Non-Confidential** Sample Description Form in the Field of Use, provided that the Customer's identity is not linked to, or otherwise disclosed with respect to, such data.

4.2 <u>Ownership of Report</u>. The Customer shall own the data in the Report. For Non-Confidential Proteomics Analyses, the Customer grants Kinexus a non-exclusive, royalty-free fully paid up worldwide perpetual license to use, copy, publish, compile, display, communicate, modify, translate and otherwise exploit (and authorize Third Parties to do any of the foregoing) data from the Report in the Field of Use.

4.3 <u>Confidentiality of Sample Information</u>. Kinexus will have no rights with respect to the Confidential Sample information until the Sample information is published or otherwise enters the public domain. Thereafter, Kinexus can use the results of the Proteomics Analyses of the Customer Samples for its internal research and development programs.

4.4 <u>Ownership of Proteomics Products.</u> The Customer owns the Proteomics Products that have been delivered to the Customer in the amounts specified in the Service Order Form and the Service Information Form. Kinexus owns any excess Proteomics Products and may dispose of these in its best interests.

- 4.5 <u>Ownership of New Intellectual Property.</u>
- (a) The Customer shall own and have rights to all inventions, discoveries, improvements, know-how, technical information, data or other technology discovered, conceived, made, developed and/or reduced to practice through the use of the data in the Report and Proteomics Products solely by employees of the Customer or jointly with its Affiliates;
- (b) Kinexus shall own and have rights to all inventions, discoveries, improvements, know-how, technical information, data or other technology discovered, conceived, made, developed and/or reduced to practice through the use of the data in the Report and Proteomics Products solely by employees of Kinexus or jointly with its Affiliates.

4.6 <u>Non-Exclusive License to Preserve Kinexus Proteomics Services Freedom of Operation</u>. In the event one or more claims of an issued patent arising from the use of a Report by the Customer, its Affiliates, Academic Collaborators or Corporate Partners would, absent a license from the Customer or its Affiliates, prevent Kinexus from using or permitting others to use the Kinexus Proteomics Services or any data therein, then the Customer and/or its Affiliates (as applicable) shall grant to Kinexus a non-exclusive, royalty-free fully-paid up perpetual license, including the right to grant sublicenses, under any such patent claim to use and permit others to use the Proteomics Services.

5. CONFIDENTIALITY

5.1 <u>Confidentiality</u>. Each Receiving Party shall treat the Confidential Information of the Disclosing Party as strictly confidential and (a) take reasonable precautions to protect such Confidential Information (including, without limitation, all precautions such as the Receiving Party employs with respect to its own confidential information), (b) not disclose or make available to any Third Party such Confidential Information without the express prior written consent of the Disclosing Party and (c) use such Confidential Information only for purposes specifically authorized under this Agreement. Each Receiving Party may disclose Confidential

Information to its employees, consultants, Affiliates and agents, and to licensees or prospective licensees of its rights to any invention, on a need-to-know basis and on the condition that such employees, Affiliates, agents, licensees and prospective licensees are obligated to maintain the confidentiality of the Confidential Information under written agreements that contain terms and conditions no less restrictive than the terms and conditions of this Section 5. Each Receiving Party may disclose Confidential Information of the Disclosing Party pursuant to a demand issued by a court or governmental agency or as otherwise required by law, provided, however, that the Receiving Party notifies the Disclosing Party promptly upon receipt thereof, giving the Disclosing Party sufficient advance notice to permit it to seek a protective order or other similar order with respect to such Confidential Information, and provided, further, that the Receiving Party furnishes only that portion of the Confidential Information which it is advised by counsel is legally required whether or not a protective order or other similar order with Disclosing Party.

5.2 <u>Publication</u>. The Customer may publish and/or present the Report, abstracts or manuscripts generated utilizing the Report, and any data and/or results generated by the Customer utilizing the Report. The Customer is encouraged to disclose in scientific publications any Proteomics Analyses that were performed by Kinexus and any Proteomics Products were produced by Kinexus that meaningfully contributed to the described work. Please refer to "Kinexus Bioinformatics Corporation (Vancouver, Canada)." For all Samples submitted for analysis and identified as Non-Confidential by the Customer, Kinexus will not use, copy, publish, compile, display, communicate, modify, or translate the Sample Information or the data from the Report for a period of 180 days (6 months) following the return of the Report to the Customer. At any time, the Customer may opt to pay the difference in price between the Non-Confidential pricing level to the Confidential pricing level for each applicable Sample, to ensure the confidentiality status of such sample is changed.

5.3 <u>Confidential Sample Information.</u> All parties agree that the term of confidentiality pertaining to that Sample information will expire when the Sample information is published or otherwise enters public domain through no fault of Kinexus.

5.4 <u>Use of Customer Name</u>. Except as expressly provided in Section 9.5, no right or license is granted hereunder by Customer for Kinexus to use the Customer's name in relation to data from a Report to a third party.

6. TERM AND TERMINATION

6.1 <u>Term.</u> The term of this Agreement ("**Term**") shall commence on the Effective Date and shall remain in effect for fifteen (15) years or until the termination of this Agreement pursuant to the terms hereof.

6.2 <u>Early Termination</u>. Each party shall have the right to terminate this Agreement at any time prior to Kinexus' delivery of a Report or Proteomics Product to the Customer hereunder, upon ten (10) days written notice to the other party, if such party reasonably determines that the production, or use of such Sample infringes intellectual property rights of any Third Party, and the Customer elects not to obtain a license under the necessary Third Party intellectual property rights at its sole expense. If this Agreement is terminated by either party pursuant to this Section 6.2, neither party shall have any obligation to the other with respect to payments under this Agreement regarding the Sample or Proteomics Product at issue.

Kinexus shall have the right to terminate any work order for any Proteomics Services upon ten (10) days written notice to the Customer, upon the identification of a technical difficulty related to the Sample or Proteomics Product which would prevent it from delivering the Report or Proteomics Product using reasonable efforts. If Kinexus terminates a work order as a result of a technical difficulty related to a Customer Sample that is the fault of Kinexus, Kinexus shall provide for the reanalysis of the same number of problematic Customer Samples for the Proteomics Analyses at the original agreed upon price without any additional expenses incurred by the Customer, or Kinexus shall repay any prepayment fee paid by the Customer for such a Customer Sample and neither party shall have any further obligation to the other with respect to that Customer Sample. If Kinexus terminates a work order for Proteomics Analyses as a result of a technical difficulty related to the Customer Sample (including insufficient material or other problems associated with the quality of the Sample) that is the fault of the Customer, then Kinexus shall provide for the reanalysis of the problematic Customer Samples at the original agreed upon price without any additional expenses incurred by the Customer, provided Kinexus completes the full Proteomics Analyses for all Samples. For any subsequent resubmission of Customer Samples for Proteomics Analyses due to technical difficulty that is again the fault of the Customer, Kinexus shall provide for the reanalysis of the problematic Customer Samples at an additional charge per sample at a price mutually agreed by the Customer and Kinexus. If the Customer elects not to resubmit Samples for Proteomics Analyses, then the Customer will pay Kinexus an amount equivalent to 50% of the quoted price for the work performed by Kinexus to this point.

6.3 <u>Events of Default.</u> An event of default (an "Event of Default") shall be deemed to occur upon a material breach of this Agreement by a party (including, without limitation, any breach of the provisions of Section 5) if the breaching party fails to remedy such breach within thirty (30) days after written notice thereof by the non-breaching party.

6.4 <u>Effect of an Event of Default.</u>

- (a) <u>Remedies Available to Kinexus</u>. If an Event of Default occurs relating to a material breach by the Customer, then Kinexus shall have the right, at its option exercisable in its sole discretion, in addition to any other rights or remedies available to it at law or in equity, to immediately terminate this Agreement upon notice thereof to the Customer, in which case the Customer shall return to Kinexus, or, upon Kinexus' written instruction, destroy any Report, Proteomics Products, and all information, other materials or documentation provided or made available by Kinexus pursuant to this Agreement, and any copies thereof (including electronic copies).
- (b) <u>Remedies Available to the Customer.</u> If an Event of Default occurs relating to a material breach by Kinexus, then the Customer shall have the right, at its option exercisable in its sole discretion, in addition to any other rights or remedies available to it at law or in equity and subject to the limitations set forth in Section 7, to terminate this Agreement upon notice thereof to Kinexus.

6.5 <u>Effect of Expiration or Termination of Agreement.</u> The expiration or termination of this Agreement shall not relieve the parties of any obligation accruing prior to such expiration or termination. Kinexus will not be required to continue Custom Immunohistochemistry Analyses on a Sample after termination, and the Customer will be required to pay for work done prior to termination. The provisions of Sections 4, 5, 6, 7, 8, and 9 hereof shall survive any expiration or termination of this Agreement.

7. DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY

7.1 <u>Disclaimer of Warranties</u>. THE PROTEOMICS SERVICES ARE BEING SUPPLIED TO CUSTOMER WITH NO EXPRESS, IMPLIED, STATUTORY OR OTHER WARRANTIES, REPRESENTATIONS, CONDITIONS OR GUARANTEES, INCLUDING THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE AND DURABILITY. WITHOUT LIMITING THE FOREGOING, KINEXUS MAKES NO REPRESENTATION OR WARRANTY THAT THE USE OF THE REPORT, ANY PROTEOMICS PRODUCTS OR THE DATA THEREIN OR THE PERFORMANCE OF THIS AGREEMENT WILL NOT INFRINGE ANY INTELLECTUAL PROPERTY OR OTHER RIGHTS OF ANY THIRD PARTY.

7.2 <u>Limitation of Liability</u>. Kinexus shall not be liable for any use by the Customer, its Affiliates, Corporate Partners, or Academic Collaborators of the Report and any Proteomics Products or any loss, claim,

damage or liability, of whatever kind or nature, which may arise from or in connection with the use of the Report or the data therein, and any Proteomics Products. NOTWITHSTANDING ANYTHING ELSE IN THIS AGREEMENT OR OTHERWISE TO THE CONTRARY, NEITHER KINEXUS NOR CUSTOMER WILL BE LIABLE TO EACH OTHER WITH RESPECT TO ANY MATTER ARISING UNDER THIS AGREEMENT UNDER ANY CONTRACT, NEGLIGENCE, STRICT LIABILITY OR OTHER LEGAL OR EQUITABLE THEORY FOR (I) ANY PUNITIVE, EXEMPLARY, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LOST PROFITS OR (II) COST OF PROCUREMENT OF SUBSTITUTE GOODS, TECHNOLOGY OR SERVICES. WITHOUT IN ANY WAY LIMITING THE FOREGOING, KINEXUS SHALL NOT, IN ANY EVENT, HAVE ANY LIABILITY WHATSOEVER IN CONNECTION WITH THIS AGREEMENT IN EXCESS OF AN AMOUNT EQUAL TO THE FEES PAID TO KINEXUS BY CUSTOMER HEREUNDER IN RESPECT OF THE PROTEOMICS SERVICES AT ISSUE.

8. INDEMNIFICATION

Except to the extent prohibited by law, the Customer shall assume all liability for, and shall defend, indemnify and hold Kinexus, its Affiliates and their respective directors, officers, employees and agents harmless from, all claims, losses, damages or expenses (including reasonable attorneys' fees) arising directly or indirectly as a result of: (a) the use of the Report or the data therein and any Proteomics Products by the Customer or its Affiliates, Corporate Partners or Academic Collaborators, or (b) the breach, untruthfulness or inaccuracy of any of the Customer's representations and warranties in this Agreement.

9. MISCELLANEOUS

9.1 <u>Entire Agreement.</u> The Appendices to this Agreement, together with all terms and conditions contained within this Agreement constitute the entire understanding between the parties with respect to the subject matter hereof and, with respect to any conflicting terms from prior agreements between the parties, supersedes and cancels such conflicting sections from all previous registrations, agreements, commitments and writings in respect thereof. This Agreement may be amended, or any term hereof modified, only by a written instrument duly executed by both parties hereto.

9.2 <u>Assignment and Waiver</u>. This Agreement may not be assigned or otherwise transferred by either party without the written consent of the other party, such consent will not be unreasonably withheld. Notwithstanding the foregoing, Kinexus may, without such consent, assign its rights and obligations under this Agreement (a) to any Affiliate or (b) to a Third Party in connection with a merger, consolidation or sale of such portion of its assets that includes rights under this Agreement provided, however, that Kinexus' rights and obligations under this Agreement shall be assumed by its successor in interest in any such transaction. In the event of such a transaction with Third Party, notwithstanding the other provisions of this Agreement, the intellectual property rights of such Third Party shall not be subject to the licenses granted by Kinexus under this Agreement. Any purported assignment in violation of the provisions of this Section 9.2 shall be void. Any permitted assignee shall assume all obligations of its assignor under this Agreement. The waiver by either party hereto of any right hereunder or the failure to perform or of a breach by the other party shall not be deemed a waiver of any other right hereunder or of any other breach or failure by said other party whether of a similar nature or otherwise.

9.3 <u>Force Majeure.</u> Neither party shall be held liable or responsible to the other party nor be deemed to have defaulted under or breached this Agreement for failure or delay in fulfilling or performing any obligation under this Agreement when such failure or delay is caused by or results from causes beyond the reasonable control of the affected party, including but not limited to fire, floods, embargoes, war, acts of war (whether war is declared or not), insurrections, riots, civil commotions, strikes, lockouts or other labor or supply disturbances, acts of God or acts, omissions or delays in acting by any governmental authority or the other party; provided, however, that the party so affected shall use reasonable commercial efforts to avoid or remove such causes of nonperformance, and

shall continue performance hereunder with reasonable dispatch whenever such causes are removed. Either party shall provide the other party with prompt written notice of any delay or failure to perform that occurs by reason of force majeure. The parties shall mutually seek a resolution of the delay or the failure to perform as noted above.

9.4 <u>Notices</u>. Any consent, notice, or report required or permitted to be given or made under this Agreement by one of the notification parties hereto to the other shall be in writing, delivered personally, by email or by facsimile (and promptly confirmed by telephone, personal delivery or courier) or courier, postage prepaid (where applicable), addressed to such other party at its address indicated below, or to such other address as the addressee shall have last furnished in writing to the addressor and shall be effective upon receipt by the addressee.

If to Kinexus:

Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, British Columbia, Canada V6P 6T3 Attention: Dr. Steven Pelech President & C.S.O. Telephone: (604) 323-2547 extension 10 Facsimile: (604) 323-2548

If to the Customer:

To the Customer at the address designated at the front of this Agreement and to the attention of the duly authorized representative signing this Agreement.

9.5 <u>Publicity</u>. Except as required by law, the terms of this Agreement shall be treated as Confidential Information and shall not be disclosed to anyone (except for the parties' respective directors, officers, employees, consultants, agents and attorneys assisting in the review and negotiation of this Agreement and/or who have a need to know the terms of this Agreement) without the written consent of the other party, such consent which will not be unreasonably withheld. Notwithstanding the foregoing, (a) Kinexus may, without such consent, publicly announce the execution of this Agreement with the Customer and may reference the Customer as a Kinexus client.

9.6 <u>No Partnership.</u> It is expressly agreed that the relationship between Kinexus and the Customer shall not constitute a partnership, joint venture or agency. Neither Kinexus nor the Customer shall have the authority to make any statements, representations or commitments of any kind, or to take any action, which shall be binding on the other, without the prior consent of the other party to do so.

9.7 <u>Applicable Law.</u> This Agreement shall be governed by, construed, interpreted and enforced in accordance with, the laws of the province of British Columbia and the laws of Canada, without reference to conflict of laws principles.

9.8 <u>Dispute Resolution.</u>

(a) The parties hereby agree that they will attempt in good faith to resolve any controversy or claim arising out of or relating to this Agreement promptly by negotiations. If a controversy or claim should arise hereunder, the matter shall be referred to an individual designated by the Chief Executive Officer or President of Kinexus and an individual designated by the Chief Executive Officer (or the equivalent position) of the Customer (the "Representatives"). If the matter has not been resolved within twenty-one (21) days of the first meeting of the Representatives of the parties (which period may be extended by mutual agreement) concerning such matter, subject to rights to injunctive relief and specific performance, and unless otherwise specifically provided for herein, any controversy or claim arising out of or relating to this Agreement, or the breach thereof, will be settled as set forth in Section 9.8(b).

(b) All disputes arising in connection with this Agreement that are not resolved pursuant to Section 9.8(a) above shall be finally settled in Vancouver, British Columbia, by a single arbitrator appointed pursuant to the provisions of the *Commercial Arbitration Act* (British Columbia). Notwithstanding the above, either party has the right to bring an action in a court of competent jurisdiction against the other party for (i) any breach of such other party's duties of confidentiality pursuant to Section 5 of this Agreement; (ii) any infringement of its proprietary rights by the other party; and (iii) for interim protection such as, by way of example, an interim injunction. Judgment upon the arbitrator's award may be entered in any court of competent jurisdiction. The award of the arbitrator may include compensatory damages against either party, but under no circumstances will the arbitrator be authorized to, nor shall he/she, award punitive, consequential or incidental damages against either party. The parties agree not to institute any litigation or proceedings against each other in connection with this Agreement except as provided in this Section 9.8.

9.9 <u>Severability</u>. Each party hereby agrees that it does not intend to violate any public policy, statutory or common laws, rules, regulations, treaty or decision of any government agency or executive body thereof of any country or community or association of countries. Should one or more provisions of this Agreement be or become invalid, the parties hereto shall substitute, by mutual consent, valid provisions for such invalid provisions which valid provisions in their economic effect are sufficiently similar to the invalid provisions that it can be reasonably assumed that the parties would have entered into this Agreement with such valid provisions. In case such valid provisions cannot be agreed upon, the invalidity of one or several provisions are of such essential importance to this Agreement that it is to be reasonably assumed that the parties would not have entered into this Agreement without the invalid provisions.

9.10 <u>Counterparts.</u> This Agreement may be executed in counterparts, each of which when executed and delivered is an original, but both of which together shall constitute one and the same instrument.

9.11 <u>Fax Delivery.</u> This Agreement may be executed by the parties and transmitted by facsimile and if so executed and transmitted this Agreement will be for all purposes as effective as if the parties had delivered an executed original Agreement.

IN WITNESS WHEREOF, the parties have caused their duly authorized officer to execute and deliver this Agreement as of the Effective Date.

Printed Name of Institute or Company	KINEXUS BIOINFORMATICS CORPORATION
Per:	Per:
Signature of Authorized Representative	Signature of Dr. Steven Pelech
Name: Printed Name of Authorized Representative	Dr. Steven Pelech
Title: Printed Title of Authorized Representative	President and Chief Scientific Officer
Date signed:	Date signed:

EXAMPLES OF KINETWORKS™ KPSS 1.3 PHOSPHO-SITE SCREENS



Human MCF7 Breast Tumour Cells



Human HeLa Cervical Carcinoma Cells



Human NCI-H69 Lung Carcinoma Cells



Human T47D Breast Tumour Cells



Human A375 Melanoma Cells



Rat Brain Cortex

EXAMPLES OF KINETWORKS™ KPSS 10.0 PHOSPHO-SITE SCREENS



Human A431 Epidermoid Carcinoma Cells



Human Jurkat T Cells



Mouse NIH-3T3 Fibroblasts



Human HeLa Cervical Carcinoma Cells



Human HCT116 Colon Carcinoma Cells



Mouse Pam212 Keratinocytes

Suite 402, 6190 Agronomy Road, Vancouver, BC, Canada V6T 1Z3 Tel: 604 822 9963 • Fax: 604 822 9964 • www.kinexus.ca

EXAMPLES OF KINETWORKS™ KPSS 11.0 PHOSPHO-SITE SCREENS



Human A431 Epidermoid Carcinoma Cells



Human HeLa Cervical Carcinoma Cells



Human Jurkat T Cells



Mouse NIH3T3 Fibroblasts



Mouse Pam212 Keratinocytes



Xenopus laevis Maturing Oocytes

Suite 402, 6190 Agronomy Road, Vancouver, BC, Canada V6T 1Z3 Tel: 604 822 9963 • Fax: 604 822 9964 • www.kinexus.ca

EXAMPLES OF KINETWORKS™ KPSS 12.0 PHOSPHO-SITE SCREENS



Human A431 Epidermoid Carcinoma Cells



Mouse NIH-3T3 Fibroblasts



Xenopus laevis Maturing Oocytes



Human HeLa Cervical Carcinoma Cells



Mouse Pam212 Keratinocytes