KINEXUS

IN VITRO
KINASE TESTING
SERVICES
IKPT
Version 10SE1

iN ViTRO SERViCES

KINASE AND PHOSPHOPEPTIDE TESTING
CUSTOMER INFORMATION PACKAGE

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IN VITRO PROTEIN KINASE AND PHOSPHOPEPTIDE TESTING SERVICES

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1. KINASE-SUBSTRATE PREDICTION

The identification of protein kinase substrates is important for understanding the architecture and operations of cell signalling networks. The vast majority of the proteins phosphorylated by specific protein kinases in humans and other species remain unknown despite more than 40 years of intense effort. We have identified about 10 thousand kinase-substrate phospho-site pairs from our literature and database searches, but we believe that the actual number probably exceeds 10 million. There appears to be at least 700,000 phospho-sites distributed in most of the 23,000 proteins encoded by the human genome. Only a very small percentage of these are likely to be of critical importance, and in view of the high background of basal protein phosphorylation, it is a major challenge to identify these key phospho-sites. With the emergence of protein kinases as one of the most promising families of drug targets in the pharmaceutical industry today, it is vital to define the proteins and their most critical phospho-sites that are controlled by these important regulatory enzymes.

To facilitate the discovery of potential kinase-substrate interactions, Kinexus has recently developed algorithms that permit the elucidation of the key specificity determinants of protein kinases and the identification of over 600,000 putative phospho-sites in addition to 93,000 experimentally validated phospho-sites. With our on-line PhosphoNET

KnowledgeBase (www.phosphonet.ca), our predictions of the top 50 human protein kinases that target each of the 93,000 known human phospho-sites are freely accessible along with evolutionary conservation analyses for each phospho-site. With our new In Silico Kinase Specificity (IKSP) and Match (IKMP) Prediction Services, we can generate additional predictions of kinase-substrate interactions for a nominal fee. While our prediction algorithm is not perfect and has limitations, it is the most accurate and versatile bioinformatics method for these purposes that is presently available to our knowledge.

Our In Silico Kinase Specificity Prediction (IKSP) Service was originally developed to predict the importance of each of the amino acids surrounding the phosphorylation sites of substrates of typical human protein kinases. However, our research has revealed that our algorithms may have wider application to other species, including those as diverse as budding yeast. It is also useful for prediction of the possible effects of mutation of human kinases within their catalytic domains on their substrate specificities. With this service, clients provide the name and Uniprot ID or NCBI accession numbers for the desired protein kinase, and Kinexus provides back a table with the expected probability frequencies of each of the 20 amino acids, 7 amino acids before and after the phospho-acceptor amino acid. The identification of positive and negative determinants in the surrounding amino acids of phosphorylation sites permits the creation of scoring matrices for each protein kinase. This has allowed Kinexus to produce scoring matrices for 488 human protein kinase domains to test any known or putative phosphorylation site as a substrate for all of these protein kinases in silico. We have also deduced the consensus substrate amino acid specificities of several of the phosphatidylinositol 3-kinase-related (PI3KR) protein kinases by alignment of known *in vitro* substrates of these atypical kinases. For more information about our kinase-substrate prediction algorithms and their demonstrated accuracy, interested parties should download from the Kinexus website (www.kinexus.ca) our In Silico Kinase Specificity Prediction (IKSP) Services Customer Information Package. In the near future, Kinexus will also publish a more fuller account about our proprietary protein kinase substrate prediction algorithm in our upcoming Kinetica Online Resource (www.kineticaonline.ca) when it is launched in late 2010.

Using in part our kinase-substrate prediction algorithms, it is feasible to identify additional putative phosphorylation sites in the human phosphoproteome. With one of our In Silico Kinase Match Prediction (IKMP-PK) Services, we can take either a known or putative phospho-site and find the most promising protein kinase candidates that target this phospho-site. This custom service is especially warranted if clients wish to predict kinases for uncharacterized or mutated phospho-sites in humans and other species. We provide a ranking of up to the best 100 kinases, provided that their prediction scores are greater than 0.

With our second In Silico Kinase Match Prediction (IKMP-PS) Service, we start with a human protein kinase of special interest to our clients and identify the top 1000 or 5000 known and predicted human phospho-sites that are likely to be targeted by that kinase. This is achieved by scoring over 700,000 known and putative phospho-site sequences with the specific position-specific scoring matrix (PSSM) that we have produced for each of about 492 different human protein kinase catalytic domains. One effective strategy to further identify the best kinase-substrate matches from this information is to observe which putative substrates have multiple predicted phospho-sites for a given kinase. The more phospho-sites with individual higher scores that are located close to each other on the same protein, the greater the probability that the protein is a bona fide substrate for the kinase in vivo.

2. KINASE-SUBSTRATE PREDICTION VALIDATION

Protein kinases appear to have broad and overlapping substrate specificities and most phospho-sites are likely to be targeted by multiple kinases. With so many potential kinases that could phosphorylate critical regulatory phospho-sites, it is a major challenge to identify the best candidates. Our In Silico Kinase Match Prediction Services provides a power strategy to narrow down the most promising candidate kinases, but this requires further experimental validation for pinning down the very best prospects. Our In Vitro Kinase and Phosphopeptide Testing (IKPT) Services provides an inexpensive means to have a panel of purified and active human protein kinases tested for their ability to phosphorylate a short peptide or a recombinant protein substrate.

Our IKPT Service uses the most reliable direct assay of protein kinase phosphotransferase activity that is known. The methodology is based on the direct quantification of radio-labeled phosphate from ATP (gamma-^{32}P or gamma-^{33}P) on to a peptide or protein substrate of a target protein kinase. This provides for a high signal to noise detection of phosphorylation, high reproducibility. In addition to the measurement of the phosphotransferase activity of a selected kinase against test peptide or protein, we can provide control data with well characterized substrates for the kinase.

The preparations of over 270 recombinant protein kinases that we can use in our IKPT Service possess high specific activities, and generally represent full-length human clones. In some instances, we use kinases that feature activating mutations that may occur in vivo. But generally, the kinases are activated by endogenous phosphorylation in the baculovirus-infected insect cells or by the addition of the purified and activate upstream protein kinase. For each kinase used in the IKPT Service, the assay conditions have been carefully optimized to ensure the highest levels of phosphotransferase activity. The MS-Excel spreadsheet that can be downloaded from the Kinexus website at
http://www.kinexus.ca/ourServices/substrate_profiling/substrate_profiling/phosphopeptide_kinase.html
features detailed information on each of the protein kinases available with this service along with active hyperlinks to other websites. An incomplete list of many of the available protein kinases is provided in the following table.

To utilize our IKPT Service, clients are expected to provide the peptides or proteins that they wish to have tested against a panel of selected kinases. Turnaround with our IKPT Service is within 3 weeks of receipt of a peptide or protein for testing. Alternatively, clients can have custom peptides or proteins produced for kinase testing through contracting with our Custom Peptide Synthesis and Protein Production Services. More information about these custom soluble peptide and peptide array synthesis services as well as our recombinant protein production services is available at
http://www.kinexus.ca/ourServices/proteinAndPeptide/index.html.

We provide a wide range of options to our clients with the IKPT Service. Individual peptides may be profiled against a panel of protein kinase targets to establish the best kinases for the substrate peptide. Alternatively, a panel of peptides may be tested against a single kinase target to identify a lead substrate peptide with the highest potency. Peptides may be tested either using a single dose or at multiple concentrations in order to allow in-depth Km determinations. Peptides can be supplied by the client as DMSO stocks of known concentration, as solid material in vials, or in 96-well plates.

Table 1 - Protein Kinases for Testing Services

No.	Protein Kinase
1	ABL (Abl1)
2	ACK (TNK2)
3	Akt1/PKBa
4	Akt2/PKBb
5	Akt3/PKBy
6	ALK1
7	ALK2
8	ALK4(ACVR1B)
9	AMPKa1/b2/g1
10	AMPKa1/b2/g2
11	AMPKa1/b1/g3
12	AMPKa1/b2/g1
13	AMPKa2/b1/g1
14	AMPKa2/b2/g2
15	ARG (Abl2)
16	Ask1 (MAP3K5
17	Aurora A (AurA, STK6)
18	Aurora B (AurB, AURKB)
19	Aurora C (AurC, AURKC)
20	Axl
21	BARK1 (ADRBK1, GRK2)
22	Blk
23	Bmx
24	B-Raf
25	BRAF (V599E)
26	Brk (PTK6)
27	Btk
28	CaMK1a (CAMK1)
29	CaMK1b (PNCK)
30	CaMK1d (CAMK1D)
31	CAMKg
32	CAMK2a (CAMK2A)
33	CaMK2b (CAMK2B)
34	CAMK2g
35	CAMK2d
36	CAMK4
37	CAMKK1 (CAMKKA)
38	CAMKK2
39	CDK1 (CDC2)/CyclinA2
40	CDK1 (CDC2)/CyclinB1
41	CDK1/CyclinA1
42	CDK2/CyclinA1
43	CDK2/CyclinA2
44	CDK2/CyclinE1
45	CDK3/CyclinE1
46	CDK4/Cyclin D1
47	CDK4/Cyclin D3
48	CDK5/p25
49	CDK5/p29
50	CDK5/p35

No.	Protein Kinase
51	CDK6/CyclinD1
52	CDK6.CyclinD3
53	CDK7/Cyclin H1/MAT1
54	CDK9/Cyclin K
55	CHK1 (CHEK1)
56	CHK2 (CHEK2)
57	CK2a1 (CSNK2A1)
58	CK2a2 (CSNK2A2)
59	CLK1
60	CLK2
61	CLK3
62	COT (MAP3K8)
63	Csk
64	DAPK1
65	DAPK2
66	DAPK3 (ZIPK)
67	DCAMKL2
68	DDR2
69	DMPK
70	DUSP22 (MKPX)
71	DYRK1A
72	DYRK3
73	eEF2K
74	EGFR
75	EphA1
76	EPHA2
77	EPHA3
78	EPHA4
79	EPHA6
80	EphB1
81	EphB2
82	EphB3
83	EphB4
84	Erk1 (MAPK3)
85	Erk2 (MAPK1)
86	FAK (PTK2)
87	Fer
88	Fes (Fps)
89	FGFR1 (Flt2)
90	FGFR1 (Flt2) [V561M]
91	FGFR2
92	FGFR3
93	FGFR4
94	Fgr
95	Flt1
96	Flt3
97	Fms (CSF1R)
98	FRK
99	Fyn
100	GCK

No.	Protein Kinase
101	GPRK5 (GRK5)
102	GRK6
103	GRK7
104	GSK3a
105	GSK3b
106	Hck
107	HER2 (ErbB2, Neu)
108	HER4 (ErbB4)
109	HIPK1 (Myak)
110	HIPK3
111	HIPK4
112	IGF1R
113	InsR
114	INSRR (IRR)
115	IRAK2
116	IRAK4
117	Itk
118	JAK3
119	JNK1 (MAPK8)
120	JNK2 (MAPK9)
121	JANK3 (MAPK10)
122	KDR (VEGFR2)
123	KHS1 (MAP4K5)
124	Kit
125	Kit [V654A]
126	Lck
127	LIMK1
128	LKB1/M025a/STRADa
129	LOK (STK10)
130	LRRK2
131	Lyn A
132	Lyn B
133	MAP2K1(MEK1) [S218E, S222E]
134	MAP2K2 (MEK2)
135	MAPKAPK2
136	MAPKAPK3
137	MAPKAPK5
138	MARK1
139	MARK2
140	MARK3
141	MARK4
142	MEK1 (MKK1, MAP2K1)
143	MEK2
144	MEKK2 (MAP3K2)
145	MEKK3 (MAP3K2)
146	Mer (MERTK)
147	MLK3 (MAP3K11)
148	MNK1 (MKNK1)
149	MNK2 (MKNK2)
150	MRCKa (CDC42BPA)

Table 1 - Protein Kinases for Testing Services (cont'd)

No.	Protein Kinase
151	MRCKb (CDC42BPB)
152	MSK1(PRS6KA5)
153	MSSK1(STK23)
154	MST1(STK4)
155	MST2/STK3
156	MST3(STK24)
157	MST4
158	MUSK
159	MYLK3
160	MYO3b
161	MYT1
162	NEK2
163	NEK3
164	NEK6
165	NEK7
166	NEK9
167	NEK11
168	NUAK2
169	p38a (MAPK14)
170	p38b (MAPK11)
171	P38d (MAPK13)
172	p38g (MAPK12)
173	p70S6K (RPS6KB1)
174	p70S6Kb (RPS6KB2)
175	PAK1/CDC42
176	PAK2
177	PAK3
178	PAK4
179	PAK5 (PAK7)
180	PAK6
181	PASK
182	PBK (TOPK)
183	PDGFRa
184	PDGFRb
185	PDK1 (PDPK1)
186	PHKG2
187	PEK (EIF2AK3)
188	PI3K (p110 a(E545K/p85a)
189	PI3K (p100a/p65a)
190	PI3K (p110b/p85a)
191	Pim1
192	Pim2
193	PKAca (PRKACA)
194	PKAcb (PRKACB)
195	PKAcg (PRKACG)
196	PKCa (PRKCA)
197	PKCb1 (PRKCB1)
198	PKCb2 (PRKCB2)
199	PKCd (PRKCD)
200	PKCe (PRKCE)

No.	Protein Kinase
201	PKCg (PRKCG)
202	PKCh (PRKCH)
203	PKCi (PRKCI)
204	PKCq (PRKCQ)
205	PKCv (PRKCV)
206	PKCz (PRKCZ)
207	PKD1 (PRKD1, PRCu)
208	PKD2 (PRKD2)
209	PKD3 (PRKD3)
210	PKG1a (PRKG1A)
211	PKN1
212	PKN2/PRK2
213	PKR (EIF2AK2)
214	PLK1
215	PLK2
216	PLK4
217	PYK2 (PTK2B)
218	QIK (SNF1LK2)
219	Raf1
220	Raf1 [Y340E, Y341E]
221	Ret
222	RIPK2
223	RIPK5
224	ROCK1
225	ROCK2 (ROKa)
226	RON (MST1R)
227	ROR2
228	ROS1
229	RSK1 (RPS6KA2)
230	RSK2 (RPS6KA3)
231	RSK3 (RPS6KA1)
232	RSK4 (RPS6KA6)
233	SGK1
234	SGK2
235	SGK3
236	SIK
237	skMLCK (MYLK2)
238	SLK
239	smMLCK (MLCK2)
240	Src
241	SRPK1
242	SRPK2
243	STK33
244	SYK
245	TAK1-TAB1
246	TAO1 (TAOK1)
247	TAO2 (TAOK2)
248	TAO3 (TAOK3, JIK)
249	TBK1
250	TEC

No.	Protein Kinase
251	TESK1
252	TGFbR1
253	TGFbR2
254	Tie2 (TEK)
255	TLK2
256	TrkA (NTRK1)
257	TrkB (NTRK2)
258	TRKC
259	TSSK1 (STK22D)
260	TSSK2 (STK22B)
261	TTK
262	TXK
263	TYK2
264	TYRO3 (RSE)
265	ULK1
266	ULK2
267	WEE1
268	Yes (Yes1)
269	YSK1 (STK25, SOK1)
270	ZAK
271	ZAP70
272	ZC3 (MINK1)

If clients wish to purchase aliquots of these kinases directly from Kinexus for follow up studies, they should contact our Technical Services Representatives.

Interested parties that may wish to have a panel of protein phosphatases tested against phosphopeptides substrates should also contact us as we are also capable of performing these types of analyses as well.

3. QUANTITY OF SUBSTRATE PEPTIDE OR PROTEIN REQUIRED

The amount of each peptide or protein required for the IKPT Service depends on how many kinase activity measures are to be performed and the concentrations at which each peptide will be tested. The final volume of the IKPT assays are 25 µl, and the stock concentration of the peptide or protein to be tested should be at least 10-times the final concentration of the highest dose desired for IKPT analysis. For example, if 500 µM is the single concentration of a peptide to be tested against one kinase in triplicate, then (3 x 2.5 µl =) 7.5 µl of a 5 mM peptide solution would be the minimum amount required. **However, we recommend that a minimum volume of 50 µl of 10X concentrated peptide stock solution in water or 2% DMSO is provided in a 1.5 ml Eppendorf vial (for 10X concentrated stock solutions of a recombinant protein it may be advisable to use a pH 7.4-adjusted buffer like Mops or Hepes) ; please Paraffin wax wrap the closed lid for further protection. If the peptide is supplied in powder form, please provide sufficient material so that the compound can be prepared at as 10X concentrated solution with a volume of at least 500 µl.**

4. KINASE ASSAY CONDITIONS

Due to the distinct assay conditions for the different protein kinases, the components of the various assays are optimized for each enzyme and are not described here. If left unspecified by the client, most assays are performed for 15 minutes duration, at 30°C, with 50 µM [γ-^{33}P]ATP in a final volume of 25 µl. The assays are typically terminated by spotting 20 µl of the reaction mixture onto a phosphocellulose P81 plate. The phosphocellulose P81 plate is washed 3 times for approximately 15 minutes each in a 1% phosphoric acid solution to remove unreacted [γ-^{33}P]ATP. The radioactivity in the captured ^{33}P-labeled peptide/protein substrate on the P81 plate is quantified in a scintillation counter.

5. SHIPPING INFORMATION

The aforementioned procedure has been designed to reduce the use of shipping materials and courier costs, and to ensure that your precious peptide or protein samples arrive in a safe and stable form at our laboratory facilities. Note that clients are responsible for payment of courier costs. The sample vials should be sent to the address listed below by any express courier. We recommend Federal Express for shipments originating in North America, and World Express is the preferred courier choice outside of North America. Ship the samples to the following address:

Kinase Inhibitor Compound Profiling Services
Kinexus Bioinformatics Corporation
Suite 1, 8755 Ash Street
Vancouver, B.C. Canada V6P 6T3
Telephone: (604) 323-2547
Facsimile: (604) 323-2548
E-mail info@kinexus.ca

Please ensure 3 copies of a signed commercial invoice accompany your shipment which specifies your samples are non hazardous. 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 highly recommended that customers e-mail their courier airway bill number and the date of departure to info@kinexus.ca so we can track your shipment in transit and ensure it arrives in a timely manner. We will send you a confirmation e-mail once your shipment arrives at our facility.

6. PRICING INFORMATION

In view of the customized nature and the opportunity for volume discounts for the IKPT Service, it is necessary to obtain a quotation from Kinexus for the desired work. Each separate assay costs approximately $9 to $10 each. To obtain a quotation, clients should complete the In Vitro Kinase Phosphopeptide Testing - Service Order Form (IKPT-SOF) in the sections under "Customer Information" and "Requested Work and Pricing Information" up to the point indicated on this form. In addition, clients should complete the appropriate In Vitro Kinase Phosphopeptide Testing - Service Information Forms (IKPT-SIF). These forms should be transmitted by facsimile to 604-323-2548 or by e-mail to info@kinexus.ca attention to "IKPT Service." Completion and submission of the IKPT-SOF and IKPT-SIF forms will permit us to determine your specific needs and provide an accurate estimate of the costs.

Issued quotations are valid for 30 days from issuance. In the event that a special promotion on the IKPT Service is offered at a lower price within 30 days of the receipt of Samples for KICP Service from a client, the lower promotional price will be applied at the time of billing the client.

7. FORMS TO BE COMPLETED

All of the forms necessary to use the In Vitro Protein Kinase Phosphopeptide Testing Services are provided in the Appendices section of this Customer Information Package. Some Fillable MS-Word versions of these forms are directly downloadable from the Kinexus website at http://www.kinexus.ca/ourServices/substrate_profiling/substrate_profiling/phosphopeptide_kinase.html and by request by e-mail or by phone. Please contact our Technical Service Representatives by e-mail at info@kinexus.ca or by phone at 604-323-2547 Ext. 1 for all enquiries related to technical/research issues, work orders, service fees or request of fillable order forms.

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

A. Service Order Form (IKPT-SOF). The Service Order Form (SOF) allows us to track all of the requested work to be performed with your order. And your contact and billing information.
B. Service Identification Form (IKPT-SIF). The Service Identification Form (SIF) permits us to determine which kinases and peptides/proteins are to be assayed. Two possible forms are provided depending on whether multiple kinases or multiple peptides/proteins are to be analyzed.
C. Sample Description Form (IKPT-SDF). The Kinase Substrate Sample Description Form (SDF) provides information on the specific peptides or proteins to be tested for safety and efficiency purposes.
D. Courier Airway Bill

E. Commercial Invoice (required for all customers located outside of Canada). Two possible forms are provided depending on the stability of the peptides or proteins to be tested for shipping without freezing.

All orders with peptides or proteins supplied by the client should have as a minimum: 1 SOF form, 1 SIF form, and 1 SDF form with Sections A, B and C completed, along with a courier airway bill and commercial invoice. Orders with peptides or proteins produced by Kinexus only require 1 SOF,1 SIF form and 1 SDF form with Sections A and B completed.

FOR ALL CUSTOMERS

A. Service Order Form (IKPT-SOF)

Please ensure:

- Shipping address and contact name and numbers are specified
- Billing information is completed
- Any promotional vouchers or quotations are listed in the "Requested Works and Pricing Information" section
- Include a Purchase Order, Visa or MasterCard number for payment
- The form is signed and dated

B. Service Identification Form (IKPT-SIF-A and IKPT-SIF-B)

Please ensure:

- You have selected the most appropriate form for your needs. With multiple peptides/proteins and multiple kinases, it will be necessary to use multiple copies of these forms.
- In Section A, you must assign a unique IKPT-SIF ID name for each separate IKPT-SIF form submitted and these are all recorded on the IKPT-SOF form in the "Requested Works and Pricing Information" section
- In Section B, you must calculate the total number of individual assays requested for each separate IKPT-SIF form submitted and these are all recorded on the IKPT-SOF form in the "Requested Works and Pricing Information" section
- For Section B of the **IKPT-SIF-A** form, you must list the "Peptide/Protein ID" name on each line in the first blank column that you provided in Section A of the IKPT-SDF forms that have been completed
- For Section B of the **IKPT-SIF-B** form, you must list the "Kinase Code and Name from Table 1 or Appendix A together on each line in the first blank column that you provided in Section A of the IKPT-SDF forms that have been completed
- When completing Section B of either the IKPT-SIF-A or IKPT-SIF-B forms for different concentrations of peptide or protein, you may also request that we provide a control with a peptide/protein that has been demonstrated to previous work with the target kinase. Concentration. Also ensure that you specify whether the concentrations shown in the table in Section B are in µM or µg/ml.
- Complete Section D if you require an assay time different from 15 minutes
- Complete Section F if you have any special instructions, such as a different temperature from 30°C for the assay incubation temperature or a concentration of ATP different from 50 µM for use in the assays

- The form is certified correct and signed and dated

FOR SUBSTRATE PEPTIDES AND PROTEINS THAT ARE BEING PRODUCED FOR THE CLIENTS BY KINEXUS

C. Sample Description Form (IKPT-SDF)

For each substrate peptide or protein submitted, please ensure the following:

- Each peptide or protein to be tested is identified with the "Client ID Name" on the form in Section A
- Section B must be completed
- Section C does not have to be completed
- Up to two peptides or proteins can be listed on the same page. Use additional copies of this form for more peptides or proteins to be analyzed
- The form is certified correct and signed and dated

FOR CUSTOMERS SENDING THEIR OWN SUBSTRATE PEPTIDES AND PROTEINS, WHICH ARE NOT BEING PRODUCED FOR THE CLIENTS BY KINEXUS

C. Sample Description Form (IKPT-SDF)

For each substrate peptide or protein submitted, please ensure the following:

- Each sample tube is labeled and properly identified with the "Client ID Name" on the form in Section A
- Sections B and C must also be completed
- Up to two peptides or proteins can be listed on the same page. Use additional copies of this form for more peptides or proteins to be analyzed
- You have clearly indicated whether there are any safety concerns with the peptides or proteins on this form
- The form is certified correct and signed and dated

D. Airway bill for Federal Express or any courier that you choose to ship your peptides or proteins to Kinexus

Complete the airway bill and specify:

- Priority overnight delivery
- Bill transportation charges to your institute
- Place sufficient dry ice if necessary to last several days into a Styrofoam shipping container - Note that dry ice shipping should not be necessary for peptides and most proteins
- Seal the edges of the Styrofoam container with tape to preserve dry ice longer
- Dry ice is a "*hazardous*" item, so ensure proper labels are attached to the outside of the box
- Do not specify Saturday delivery or hold at courier location

- For Federal Express shipments telephone 1-800-GO-FEDEX or visit them on-line at www.fedex.com or www.fedex.ca 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 Wednesday. Do not ship on a Thursday or Friday.
- For international shipments coming from outside of North America, the best day to ship is on a 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 courier airway bill number with the number of samples to Kinexus at info@kinexus.ca 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 U.S AND INTERNATIONAL CUSTOMER ONLY

E. 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
- Name of courier and the 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 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 go to a Canada Customs facility to claim the package of samples for client order due to inadequate completion of the commercial invoice, additional charges will apply.

Upon completion and transmission of these forms to Kinexus, we will endeavor to return the results of our analyses back to you within 3 weeks.

8. FOLLOW UP SERVICES

Demonstration that a synthetic peptide substrate or recombinant protein can be phosphorylated by a specific protein kinase in vitro is an important step in the validation of a physiological kinase-substrate interaction. However, it may be desirable to confirm the identity of the amino acids that are actually modified in these in vitro studies. With our custom mass spectrometry services, we can perform tandem MS-MS mass spectrometry for our clients to provide precise evaluation of the phosphorylation of specific sites in peptides and proteins. Interested parties should contact our Technical Services Representatives for more information about these custom analyses and their costs.

If clients wish to purchase aliquots of the protein kinases used in this service directly from Kinexus for follow up studies, they should contact our Technical Services Representatives.

KINEXUS

Form: IKPT-SOF

IN VITRO KINASE PHOSPHO-PEPTIDE TESTING

SERVICE ORDER FORM

KINEXUS ORDER NUMBER

CUSTOMER INFORMATION ❑ REPEAT CUSTOMER OR ❑ NEW CUSTOMER

❑ Dr. ❑ Mr. ❑ 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*

IN VITRO KINASE PHOSPHOPEPTIDE TESTING REPORTS

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

REQUESTED WORK AND PRICING INFORMATION (Note that this does not include costs of any peptide synthesis or recombinant protein production by Kinexus to generate substrates for this analysis.)

Refer to Service Identification Forms (IKPT-SIF-A and IKPT-SIF-B) ***All prices in U.S. Funds***

Sheet No.	IKPT-SIF ID Name (from Section A of IKPT-SIF Forms)	Total Number of Assays (from Section B of IKPT-SIF Forms)
1.	_____	_____
2.	_____	_____
3.	_____	_____
4.	_____	_____
5.	_____	_____
6.	_____	_____
7.	_____	_____
8.	_____	_____

Total Number Assays (*Sum 1-8*) _____ (Complete up to this point for quotation purposes only)

Quotation or Reference Number: _____ **TOTAL COST AS PER QUOTATION** = $ _____

FOR CANADIAN CUSTOMERS ONLY:

Add an additional 12% to the above total for HST (No. 893907329 RT0001): + $ _____ = $ _____

TOTAL AMOUNT PAYABLE IN U.S FUNDS

PAYMENT METHOD

❑ PURCHASE ORDER ACCEPTED FROM COMPANIES AND INSTITUTES WITH APPROVED CREDIT. P.O. NUMBER: _____

❑ VISA OR ❑ MASTERCARD

Print Cardholder Name *Visa Number* *Expires (M/Y)* *Cardholder Signature*

BILLING INFORMATION ❑ SEND INVOICE TO CUSTOMER AT ABOVE ADDRESS OR ❑ SEND INVOICE TO ACCOUNTS PAYABLE CONTACT:

❑ Dr ❑ Mr ❑ Ms

Accounts Payable Contact Name *Company Name or Institute*

Street Address *City*

State or Province *Country* *Zip or Postal Code* *(Area Code)* *Telephone Number*

AUTHORIZATION

CUSTOMER HAS READ THE KINEXUS SERVICE AGREEMENT AND AGREES TO BE BOUND BY THE TERMS AND CONDITIONS:

Print Name of Authorized Representative or Principal Investigator *Authorized Signature* *Date (D/M/Y)*

How did you originally hear about the IKPT Services? ❑ *Direct Mail* ❑ *Email* ❑ *Web Site* ❑ *Advertisement* ❑ *Referral* ❑ *Conference or Trade Show* ❑ *Other*

KINEXUS

Form: IKPT-SIF-A

IN VITRO KINASE PHOSPHO-PEPTIDE TESTING

SERVICE INFORMATION FORM

KINEXUS ORDER NUMBER

NAME: _____ **COMPANY/INSTITUTE:** _____

(Authorized Representative or Principal Investigator)

Service Requested: One Kinase; Multiple Peptide or Protein Substrates

Use the IKPT-SIF-B Form if you wish to have many kinases tested against only one peptide or protein substrate. Please refer to the In Vitro Kinase Phosphopeptide Testing Customer Information Package for further details about this in vitro custom substrate screening service. Initially use this form to obtain a quotation from Kinexus for pricing of your custom order. Please also provide a copy of this completed form at the time of submission of your substrates for testing. Use additional copies of this form if you have more substrates or more kinases to be tested against other substrate panels. If you need assistance completing this form, 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.

CUSTOM SERVICE REQUESTED: IKPT-A
Custom multi-substrate (1-15) and single target kinase (1) screen

Depending on the scale of your order, make sure that you are supplying at least five-times as much as minimally necessary of the peptides or proteins to be tested.

KINEXUS ID NUMBER
(Bar Code Identification Number)
For Kinexus Internal Use Only.

A. IKPT-SIF IDENTIFICATION NAME:

Client ID: _____

Use this ID name of your choice for your internal reference and completion of the IKPT-SOF form. This is useful when multiple copies of the IKPT-SIF forms are to be used in your order.

B. SUBSTRATE SELECTION:

For each separate substrate, under "Substrate ID" please provide the assigned client name that has been entered into Box A from the completed and attached "Sample Description Form" (IKPT-SDF). If these peptides or proteins are produced by Kinexus, you should still attach a completed IKPT-SDF. For each concentration of the substrate to be tested (up to 6) indicate the amount and whether this represents "µM" or " µg/ml" by ticking the appropriate box. Also indicate whether each assay is to be performed in single ("Once"), duplicate {"Dupl.") or triplicate ("Tripl.) measurements. Under "Subtotal" for each compound, indicate the number of individual assays that you intend to be performed.

Substrate ID.	Final Conc. (µM) ❑ or (µg/ml) ❑ Dil. 1	Dil. 2	Dil. 3	Dil. 4	Dil. 5	Dil. 6	Replicates Once	Dupl.	Tripl.	Subtotal
1. _____							❑	❑	❑	_____
2. _____							❑	❑	❑	_____
3. _____							❑	❑	❑	_____
4. _____							❑	❑	❑	_____
5. _____							❑	❑	❑	_____
6. _____							❑	❑	❑	_____
7. _____							❑	❑	❑	_____
8. _____							❑	❑	❑	_____
9. _____							❑	❑	❑	_____
10. _____							❑	❑	❑	_____
11. _____							❑	❑	❑	_____
12. _____							❑	❑	❑	_____
13. _____							❑	❑	❑	_____
14. _____							❑	❑	❑	_____
15. _____							❑	❑	❑	_____

Total Number of Assays _____

C. KINASE SELECTION:

Use Appendix A of the In Vitro Kinase Phosphopeptide Testing Customer Information Package to obtain the code (Column A) and name (Column B) of the protein kinase that will be tested for its ability to phosphorylate the peptides or proteins listed in Section B. A more detailed MS-Excel spreadsheet with information about each kinase can be downloaded from the Kinexus website at www.kinexus.ca/ourservices/substrate_profiling/substrate_profiling.array.html.

Kinase ID code: _____

Kinase target name: _____

D. ASSAY TIME:

If you have a recommended or required incubation time, please provide this here.

Assay time (minutes): _____

E. PRICING:

Pricing varies with the number of kinases and substrate peptides or proteins to be tested in each custom order. Kinexus can test peptides and proteins against protein kinases that are provided by clients or produced by Kinexus on behalf of clients. It is necessary to complete this form and transmit it by facsimile to 1-604-323-2548 with your e-mail address, facsimile and telephone number to obtain a quotation for each custom analysis. We will endeavor to issue a quotation that is valid for four weeks within 24 hours of receipt.

F. SPECIAL INSTRUCTIONS:

_____

_____

_____

_____

_____ _____ _____

Name of person completing this form *Email Address/Facsimile Number/ Phone Number* *Date (D/M/Y)*

Form: IKPT-SIF-B

IN VITRO KINASE PHOSPHO-PEPTIDE TESTING

SERVICE INFORMATION FORM

KINEXUS ORDER NUMBER

NAME: _____ **COMPANY/INSTITUTE:** _____

(Authorized Representative or Principal Investigator)

Service Requested: One Peptide or Protein Substrate; Multiple Kinases

Use the IKPT-SIF-A Form if you wish to have one kinase tested against many peptide or protein substrate. Please refer to the In Vitro Kinase Phosphopeptide Testing Customer Information Package for further details about this in vitro custom substrate screening service. Initially use this form to obtain a quotation from Kinexus for pricing of your custom order. Please also provide a copy of this completed form at the time of submission of your substrates for testing. Use additional copies of this form if you have more kinases tested against substrates or more kinases to be tested against other substrate panels. If you need assistance completing this form, 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.

CUSTOM SERVICE REQUESTED: IKPT-B
Custom multi-kinase (1-15) and single target substrate (1) screen

Depending on the scale of your order, make sure that you are supplying at least five-times as much as minimally necessary of the peptides or proteins to be tested.

KINEXUS ID NUMBER
(Bar Code Identification Number)
For Kinexus Internal Use Only.

A. IKPT-SIF IDENTIFICATION NAME:

Client ID: _____

Use this ID name of your choice for your internal reference and completion of the IKPT-SOF form. This is useful when multiple copies of the IKPT-SIF forms are to be used in your order.

B. SUBSTRATE SELECTION:

Please provide the assigned client name for the peptide or protein that has been entered into Box A from the completed and attached "Sample Description Form" (IKPT-SDF).

Compound ID: _____

C. KINASE SELECTION:

Use the Kinase List found in the Appendix of the In Vitro Kinase Phosphopeptide Testing Customer Information Package to obtain the code (Column A) and name (Column B) of the protein kinase that will be tested for their ability to phosphorylate the peptide or protein substrate listed in Section B. A more detailed MS-Excel spreadsheet with information about each kinase can be downloaded from the Kinexus website at *www.kinexus.ca/ourservices/substrate_profiling/substrate_profiling.array.html*. For each concentration of the substrate to be tested (up to 5) indicate the amount and whether this represents "µM" or " µg/ml" by ticking the appropriate box. Also indicate whether each assay is to be performed in single ("Once"), duplicate {"Dupl.") or triplicate ("Tripl.) measurements. Under "Subtotal" for each substrate, indicate the number of individual assays that you intend to be performed.

Kinase Code	Kinase Name	Substrate Final Conc. (µM) ❑ or (µg/ml) ❑ Dil. 1	Dil. 2	Dil. 3	Dil. 4	Dil. 5	Replicates Once	Dupl.	Tripl.	Subtotal
1.							❑	❑	❑	
2.							❑	❑	❑	
3.							❑	❑	❑	
4.							❑	❑	❑	
5.							❑	❑	❑	
6.							❑	❑	❑	
7.							❑	❑	❑	
8.							❑	❑	❑	
9.							❑	❑	❑	
10.							❑	❑	❑	
11.							❑	❑	❑	
12.							❑	❑	❑	
13.							❑	❑	❑	
14.							❑	❑	❑	
15.							❑	❑	❑	

Total Number of Assays _____

D. ASSAY TIME:

If you have a recommended or required incubation time, please provide this here.

Assay time (minutes): _____

E. PRICING:

Pricing varies with the number of kinases and substrate peptides or proteins to be tested in each custom order. Kinexus can test peptides and proteins against protein kinases that are provided by clients or produced by Kinexus on behalf of clients. It is necessary to complete this form and transmit it by facsimile to 1-604-323-2548 with your e-mail address, facsimile and telephone number to obtain a quotation for each custom analysis. We will endeavor to issue a quotation that is valid for four weeks within 24 hours of receipt.

F. SPECIAL INSTRUCTIONS:

_____

_____

_____

_____

_____

_____ _____ _____

Name of person completing this form *Email Address/Facsimile Number/ Phone Number* *Date (D/M/Y)*

IN VITRO KINASE PHOSPHO-PEPTIDE TESTING

KINASE SUBSTRATE SAMPLE DESCRIPTION FORM

Form: IKPT-SDF

KINEXUS ORDER NUMBER

NAME: _____ **COMPANY/INSTITUTE:** _____
(Authorized Representative or Principal Investigator)

Peptide/Protein Details:

Please refer to the In Vitro Kinase Phosphopeptide Testing Customer Information Package for details on how to prepare and ship your substrate peptides and proteins to Kinexus for testing. Clients are required to complete Sections A and B even if Kinexus is supplying these substrates. Section C must also be completed if the substrates are supplied by the client. Use additional copies of this form if you have more than two peptides or proteins for testing. For each substrate to be tested, please send enough material to complete the analysis. If you need assistance completing this form, 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 IDENTIFICATION NAME

CLIENT ID: _____

Use the Client ID Name that you entered here in Box A on the In Vitro Kinase Phosphopeptide Testing Service Identification Form" (IKPT-SIF-A or IKPT-SIF-B). Provide a separate Client ID number for each different peptide or protein to be tested.

KINEXUS ID NUMBER (FOR INTERNAL USE ONLY)
(Bar Code Identification Number)

B. SUBSTRATE IDENTIFICATION: ❑ Peptide (complete line B1 with single amino acid letter code) or ❑ Protein (complete line B2)

Line B1 – Peptide amino acid sequence: _____

Line B2 - Protein name: _____ Uniprot ID or NCBI Accession ID: _____ Species: _____

C. SUBSTRATE HANDLING: Supplied form of peptide/protein ❑ Solid ❑ Liquid

FOR SOLIDS PROVIDE: Mass (mg): _____ Formula Weight: _____ Is the sample toxic? ❑ Yes ❑ No

FOR LIQUIDS PROVIDE: Molarity: _____ or Concentration: _____ Volume: _____ MSDS or safety sheets provided ❑ Yes ❑ No

For solids, what is the recommended buffer? _____ Is the substrate soluble in water or 2% DMSO? _____

Provide safety instructions and storage details for handling, or any other special information: _____

_____

A. CLIENT IDENTIFICATION NAME

CLIENT ID: _____

Use the Client ID Name that you entered here in Box A on the In Vitro Kinase Phosphopeptide Testing Service Identification Form" (IKPT-SIF-A or IKPT-SIF-B). Provide a separate Client ID number for each different peptide or protein to be tested.

KINEXUS ID NUMBER (FOR INTERNAL USE ONLY)
(Bar Code Identification Number)

B. SUBSTRATE IDENTIFICATION: ❑ Peptide (complete line B1 with single amino acid letter code) or ❑ Protein (complete line B2)

Line B1 – Peptide amino acid sequence: _____

Line B2 - Protein name: _____ Uniprot ID or NCBI Accession ID: _____ Species: _____

C. SUBSTRATE HANDLING: Supplied form of peptide/protein ❑ Solid ❑ Liquid

FOR SOLIDS PROVIDE: Mass (mg): _____ Formula Weight: _____ Is the sample toxic? ❑ Yes ❑ No

FOR LIQUIDS PROVIDE: Molarity: _____ or Concentration: _____ Volume: _____ MSDS or safety sheets provided ❑ Yes ❑ No

For solids, what is the recommended buffer? _____ Is the substrate soluble in water or 2% DMSO? _____

Provide safety instructions and storage details for handling, or any other special information: _____

_____

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 details if the information provided is unclear.

_____ _____ _____
Name of person completing this form *Signature* *Date (D/M/Y)*

COMMERCIAL INVOICE

DATE OF EXPORTATION	EXPORT REFERENCES (*not required*)
SHIPPER/EXPORTER	CONSIGNEE Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Ext. 1 or 10 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 Canada	EXPORTING CARRIER
INTERNATIONAL AIR WAYBILL NUMBER Courier Number:	

NO. OF PKGS	TYPE OF PACKAGING	QUANTITY OF SAMPLES	COMPLETE AND ACCURATE COMMODITY DESCRIPTION	UNIT VALUE
	_ FedEx Letter _ FedEx Pak _ Box _ Other	*Total number of 1.5 ml Eppendorf tubes:*	Non-hazardous, peptides for research and development for therapeutic purposes. Samples are not for resale and there is no commercial value.	$1.00 *per sample*

TOTAL NO. OF PACKAGES	TOTAL WEIGHT OF PACKAGES	TOTAL DECLARED 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
SHIPPER/EXPORTER	**CONSIGNEE** Kinexus Bioinformatics Corporation Suite 1, 8755 Ash Street Vancouver, B.C. Canada V6P 6T3 Telephone: (604) 323-2547 Ext. 1 or 10 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 Canada	**EXPORTING CARRIER**
INTERNATIONAL AIR WAYBILL NUMBER Courier Number:	

NO. OF PKGS	TYPE OF PACKAGING	QUANTITY OF SAMPLES	COMPLETE AND ACCURATE COMMODITY DESCRIPTION	UNIT VALUE
	_ FedEx Letter _ FedEx Pak _ Box _ Other	*Total number of 1.5 ml Eppendorf tubes:*	Non-hazardous, peptides for research and development for therapeutic purposes. Samples are not for resale and there is no commercial value. Samples are packaged on Dry Ice, Class 9, UN 1845, Group 3 (____ X ____ kgs).	$1.00 *per sample*

TOTAL NO. OF PACKAGES	TOTAL WEIGHT OF PACKAGES	TOTAL DECLARED 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

List of Available Active Protein Kinases for Peptide and Protein Substrate Testing - 2010 September 1
This list may change depending on availability.

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
ABL1	Abl (Abl1)	Proto-oncogene tyrosine-protein kinase Abl1	ABL; JTK7; p150; c-ABL; v-abl; bcr/abl	P00519	NP_005148	Recombinant human ABL1 (27-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~135
ACK1	ACK (TNK2)	Activated CDC42 kinase 1	ACK, ACK1, FLJ44758, FLJ45547, p21cdc42Hs	Q07912	NP_005772	Recombinant human ACK (110-476) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
AKT1	Akt1/PKBα	RAC-alpha serine/threonine-protein kinase	PKB; RAC; PRKBA; MGC99656; RAC-ALPH	P31749	NP_005154	Recombinant full-length human AKT1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
AKT2	Akt2/PKBβ	RAC-beta serine/threonine-protein kinase	PRKBB; PKBBETA; RAC-BETA	P31751	NP_001617	Recombinant full-length human AKT2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
AKT3	Akt3/PKBγ	Rac-gamma serine/threonine-protein kinase	PKBG; PRKBG; STK-2; RAC-gamma; RAC-PK-gamma; DKFZP434N0250	Q9Y243	NP_005456	Recombinant full-length human AKT3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
ALK1	ALK1	Serine/threonine-protein kinase receptor R3	ACVRL1, ACVRLK1, ALK1, HHT, HHT2, ORW2, SKR3, ALK1, TSR-I	P37023	NP_000011	Recombinant human ALK1 (144-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~64
ALK2	ALK2	Activin receptor type I	ACVR1, ACTRI, ACVR1A, ACVRLK2, FOP, SKR1, TSRI	Q04771	NP_001096	Recombinant human ALK2 (147-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~67
ALK4	ALK4 (ACVR1B)	Serine/threonine-protein kinase receptor R2	ACVR1B, SKR2, ACTRIB, ACVRLK4	P36896	NP_004293	Recombinant human ALK4 (150-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~64

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
AM11	AMPKα1/β1/γ1 (PRKAA1/B1/G1)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G1: PRKAG1, AMPKG, MGC8666	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68k (A1), ~38 (B1), ~4 (G1)
AM12	AMPKα1/β1/γ2 (PRKAA1/B1/G2)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G2: PRKAG2, AAKG, CMH6, WPWS, AAKG2, H91620p	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G2 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68k Da (A1), ~38 (B1), ~65 (G2)
AM13	AMPKα1/β1/γ3 (PRKAA1/B1/G3)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G3: PRKAG3	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B1/G3 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68 (A1), ~38 (B1), ~51 (G3)
AM21	AMPKα1/β2/γ1 (PRKAA1/B2/G1)	5'-AMP-activated protein kinase, catalytic alpha-1 chain	Subunit A1: PRKAA1, MGC33776, MGC57364 Subunit B2: PRKAB2, MGC61468 Subunit G1: PRKAG1, AMPKG, MGC8666	Q13131	NP_996790	Recombinant full-length human AMPK (combination of A1/B2/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~68 (A1), ~36 (B2), ~40 (G1)
AP11	AMPKα2/β1/γ1 (PRKAA2/B1/G1)	5'-AMP-activated protein kinase, catalytic alpha-2 chain	Subunits A2: PRKAA2, AMPK, AMPK2, PRKAA Subunit B1: PRKAB1, AMPK, HAMPKb, MGC17785 Subunit G1: PRKAG1, AMPKG, MGC8666	P54646	NP_006243	Recombinant full-length human AMPK (combination of A2/B1/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~69 (A2), ~38 (B1), and ~40 (G1)

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
AP22	AMPKα2/β2/γ2 (PRKAA2/B2/G2)	5'-AMP-activated protein kinase, catalytic alpha-2 chain	Subunits A2: PRKAA2, AMPK, AMPK2, PRKAA Subunit B2: PRKAB2, AMPK, HAMPKb, MGC17785 Subunit G2: PRKAG2, AMPKG, MGC8666	P54646	NP_006243	Recombinant full-length human AMPK (combination of A2/B1/G1 subunits) was expressed by baculovirus in Sf9 insect cells using a C-terminal His tags.	~69 (A2), ~38 (B1), and ~40 (G1)
ABL2	Arg (Abl2)	Tyrosine-protein kinase Abl2	ARG; ABLL	P42684	NP_005149	Recombinant human ABL2 (38-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~132
ASK1	Ask1 (MAP3K5)	Mitogen-activated protein kinase kinase kinase 5	MAP3K5; MEKK5; MAPKKK5	Q99683	NP_005914	Recombinant human ASK1(649-946) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~60
AUR1	Aurora A (AurA, STK6)	Serine/threonine-protein kinase 6	AURKA, AIK, ARK1, AURA, BTAK, STK6, STK7, STK15, AURORA2, MGC34538	O14965	NP_940835	Recombinant full-length human AURORA A was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~72
AUR2	Aurora B (AurB, AURKB, INCENP)	Serine/threonine-protein kinase 12	AURKB, AIK2; AIM1; ARK2; AurB; IPL1; AIM-1; STK12	Q96GD4	NP_004208	Recombinant full-length human AURORA B was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
AUR3	Aurora C (AurC, AURKC)	Serine/threonine-protein kinase 13	AURKC, AIE2, AIK3, AurC, STK13, aurora-C	Q9UQB9	NP_001015878	Recombinant full-length human AURORA C was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~61
AXL1	Axl	Tyrosine-protein kinase receptor UFO	UFO, JTK11	P30530	NP_068713	Recombinant human AXL (473-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~55
GRK2	BARK1 (ADRBK1, GRK2)	Adrenergic, beta, receptor kinase 1	BETA-ARK1, FLJ16718, GRK2	P25098	NP_001610	Recombinant full length human GRK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~102
BLK1	Blk	B lymphoid tyrosine kinase	MGC10442	P51451	NP_001706	Recombinant full-length human BLK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~84

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
BMX1	Bmx	Cytoplasmic tyrosine-protein kinase BMX	ETK; PSCTK2; PSCTK3	P51813	NP_001712	Recombinant full-length human BMX was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~110
RAF2	B-Raf	B-Raf proto-oncogene serine/threonine-protein kinase	BRAF1, RAFB1, B-raf 1, MGC126806, MGC138284	P15056	NP_004324	Recombinant human BRAF (416-766) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
RAF4	B-Raf [V599E]	B-Raf proto-oncogene serine/threonine-protein kinase	BRAF1, RAFB1, B-raf 1, MGC126806, MGC138284	P15056	NP_004324	Recombinant human BRAF (416-end; V599E) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
BRK1	Brk (PTK6)	Tyrosine-protein kinase 6	PTK6; FLJ42088	Q13882	NP_005966	Recombinant full-length human BRK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~80
BTK1	Btk	Tyrosine-protein kinase BTK	AT; ATK; BPK; XLA; IMD1; AGMX1; PSCTK	Q06187	NP_000052	Recombinant full-length human BTK was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~78
CM1A	CaMK1α (CAMK1)	Calcium/calmodulin-dependent protein kinase type 1	AI505105; D6Ertd263e	Q14012	NP_003647	Recombinant full-length mouse CAMK1α was expressed in E-coli cells using an N-terminal GST tag.	~70
CM1B	CaMK1β (PNCK)	Calcium/calmodulin-dependent protein kinase 1beta	Punc; Bstk3; CaMKIb2; caMKIb1; Pnck	Q6P2M8	AAH64422	Recombinant full-length mouse CAMK1β was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~64
CM1D	CaMK1δ (CAMK1D)	Calcium/calmodulin-dependent protein kinase I detla	RP11-462F15.1; CKLiK; CaM-K1; CaMKID	Q8IU85	NP_705718	Recombinant full-length human CAMK1δ was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
CM1G	CAMK1γ	Calcium/calmodulin-dependent protein kinase 1 gamma	VWS1; CLICKIII; dJ272L16.1	Q96NX5	NP_065172	Recombinant human CAMK1γ (C-terminal truncation) protein was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. Recombinant , GST-tagged human CAMK1γ (1-330) is also available.	~60
CM2A	CAMK2α (CAMK2A)	Calcium/calmodulin-dependent protein kinase type II alpha	CAMKA; KIAA0968	Q9UQM7	NP_057065	Recombinant full-length human CAMK2α was expressed in Sf9 cells using an N-terminal GST tag.	~74
CM2B	CaMK2β (CAMK2B)	Calcium/calmodulin-dependent protein kinase type II beta	CAMKB, CAM2, CAMK2, MGC29528	Q13554	NP_001211	Recombinant full-length human CAMK2β was expressed by baculovirus in Sf9 cells using an N-terminal His tag.	~58

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
CM2D	CAMK2δ	Calcium/calmodulin-dependent protein kinase type delta	CAMKD, MGC44911	Q8IU85	NP_742125	Recombinant full length human CAMK2delta was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~77
CM2G	CAMK2γ	Calcium/calmodulin-dependent protein kinase type II gamma	CAMKG, CAMK, CAMK-II, MGC26678	Q13555	NP_751911	Recombinant human CAMK2γ (C-terminal truncation) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~60
CMK4	CAMK4	Calcium/calmodulin-dependent protein kinase type IV	CaMK-GR; MGC36771	Q16566	NP_001735	Recombinant full-length human CAMK4 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~79
CKK1	CAMKK1 (CAMKKA)	Calcium/calmodulin-dependent protein kinase kinase 1	CAMKKA, MGC34095, DKFZp761M0423	Q8N5S9	NP_115670	Recombinant full-length human CAMKK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~94
CKK2	CAMKK2	Calcium/calmodulin-dependent protein kinase kinase 2	CAMKK; CAMKKB; KIAA0787; MGC15254	Q96RR4	NP_006540	Recombinant full-length human CAMKK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~88
C1A1	CDK1 (CDC2)/CyclinA1	Cell division control protein 2 homolog	CDK1: CDC2 CDC28A; MGC111195; DKFZp686L20222	P06493	NP_001777	Recombinant full-length human CDK1 and CyclinA1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and CyclinA1 ~78
C1A2	CDK1 (CDC2)/CyclinA2	Cell division control protein 2 homolog	CDK1: CDC2 CDC28A; MGC111195; DKFZp686L20222 CyclinA2: CCN1; CCNA	P06493	NP_001777	Recombinant full-length human CDK1 and CyclinA2 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and CyclinA2 ~78
C1B1	CDK1 (CDC2)/CyclinB1	Cell division control protein 2 homolog	CDK1: CDC2 CDC28A; MGC111195; DKFZp686L20222	P06493	NP_001777	Recombinant full-length human CDK1 and CyclinB1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and CyclinB1 ~62
C2A1	CDK2/CyclinA1	Cell division protein kinase 2	CDK2: p33(CDK2)	P24941	NP_001789	Recombinant full-length human CDK2 and CyclinA1were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~58

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
C2A2	CDK2/CyclinA2	Cell division protein kinase 2	CDK2: p33(CDK2) CyclinA2: CCN1; CCNA	P24941	NP_001789	Recombinant full-length human CDK2 and CyclinA2 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~58 and CyclinA2 ~78
C2E1	CDK2/CyclinE1	Cell division protein kinase 2	CDK2: p33(CDK2) CyclinE1: CCNE1; CCNE	P24941	NP_001789	Recombinant full-length human CDK2 and CyclinA2 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~58 and CyclinE1 ~78
C3E1	CDK3/CyclinE1	Cell division protein kinase 3	CDK3: None; CyclinE1: CCNE1, CCNE	Q00526	NP_001249	Recombinant full-length human CDK3 and Cyclin E1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~60 and CyclinE1 ~73
C4D1	CDK4/Cyclin D1	Cell division protein kinase 4	CDK4: CMM3; PSK-J3; MGC14458 CyclinD1: BCL1, PRAD1, U21B31, D11S287E	P11802	NP_000066	Recombinant full-length human CDK4 and CyclinD1 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~57 and CyclinD1 ~61
C4D3	CDK4/CyclinD3	Cell division protein kinase 4	CDK4: CMM3; PSK-J3; MGC14458 Cyclin D3: CCND3	P11802	NP_000066	Recombinant full-length human CDK4 and CyclinD3 were co-expressed by baculovirus in Sf9 cells using an N-terminal GST tag on both proteins.	~58 and CyclinD3 ~58
C5P2	CDK5/p25	Cell division protein kinase 5	CDK5: PSSALRE; p25: CDK5R1; CDK5P35, CDK5R, NCK5A, p23, p35, p35nck5a	Q00535	NP_004926	Recombinant full-length human CDK5 and p25 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and p25 ~49
C5P9	CDK5/p29	Cell division protein kinase 5	CDK5: PSSALRE	Q00535	NP_004926	Recombinant full-length human CDK5 and p29 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and p25 ~53
C5P3	CDK5/p35	Cell division protein kinase 5	CDK5: PSSALRE	Q00535	NP_004926	Recombinant full-length human CDK5 and p29 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~59 and p35 ~63
C6D1	CDK6/CyclinD1	Cell division protein kinase 6	PLSTIRE, MGC59692 /CCND1	Q00534	NP_001250	Recombinant full-length human CDK6 and CyclinD3 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~40 and CyclinD1 ~35

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
C6D3	CDK6/CyclinD3	Cell division protein kinase 6	PLSTIRE, MGC59692 /CCND3	Q00534	NP_001250	Recombinant full-length human CDK6 and CyclinD3 were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~40 and CyclinD3 ~35
C7H1	CDK7/Cyclin H1/MAT1	Cell division protein kinase 7	CDK7: CAK1, STK1, CDKN7, p39MO15; Cyclin H1: CCNH, CAK, p34, p37; MNATI: MAT1, RNF66	P50613	NP_001790	Recombinant full-length human CDK7, Cyclin H1 and MNATI were co-expressed by baculovirus in Sf9 insect cells using N-terminal His tags.	~40, Cyclin H1 ~39, and MNAT1 ~37
C9CK	CDK9/Cyclin K	Cell division protein kinase 9	CDC2L4, C-2k, TAK, PITALRE; CCNK, CPR4, MGC9113	P50750	NP_001252	Recombinant full-length human CDK9 and CyclinK were co-expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag on both proteins.	~68 and CyclinK~67
CHK1	CHK1 (CHEK1)	Serine/threonine-protein kinase Chk1	CHEK1	O14757	NP_001265	Recombinant full-length human CHK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. Also available with N-terminal His tag.	~82
CHK2	CHK2 (CHEK2)	Serine/threonine-protein kinase Chk2	RP11-436C9.1, CDS1, CHEK2, HuCds1, LFS2, PP1425, RAD53	O96017	NP_009125	Recombinant full-length human CHK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~88
CK21	CK2α1 (CSNK2A1)	Casein kinase II, alpha chain	CKII; CK2A1; CKIIα	P68400	NP_808227	Recombinant full-length human CK2α1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
CK22	CK2α2 (CSNK2A2)	Casein kinase 2, alpha prime	CKII; CK2A2; CKIIα, CSNK2A1, FLJ43934	P19784	NP_001887	Recombinant full-length human CK2α2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
CLK1	CLK1	Dual specificity protein kinase CLK1	CLK, STY, CLK/STY	P49759	NP_004062	Recombinant human CLK1 (129-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
CLK2	CLK2	Dual specificity protein kinase CLK2	hCLK2, MGC61500	P49760	NP_003984	Recombinant human CLK2 (137-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
CLK3	CLK3	Dual specificity protein kinase CLK3	CDC-like kinase 3	P49761	NP_003983	Recombinant full-length human CLK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~86

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
COT1	COT (MAP3K8)	Mitogen-activated protein kinase kinase kinase 8	MAP3K8, EST, ESTF, TPL2, Tpl-2, c-COT, FLJ10486	P41279	NP_005195	Recombinant human COT (30-397) was expressed by baculovirus in Sf9 insect cells.	~70
CSK1	Csk	Tyrosine-protein kinase CSK	MGC117393	P41240	NP_004374	Recombinant full-length human CSK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~78
DAP1	DAPK1	Death-associated protein kinase 1	DAPK, DKFZp781I035	P53355	NP_004929	Recombinant human DAPK1 (1-363) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
DAP2	DAPK2	Death-associated protein kinase 2	DRP-1; MGC119312	Q9UIK4	NP_055141	Recombinant human full-length DAPK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~67
DAP3	DAPK3 (ZIPK)	Death-associated protein kinase 3	ZIP, ZIPK, FLJ36473	O43293	NP_001339	Full-length recombinant human DAPK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~79
DCA2	DCAMKL2	Serine-threonine-protein kinase DCAMKL2	DCLK2; DCK2; DCDC3; DCDC3B; DKFZp761I032; MGC45428	Q8N568	NP_689832	Recombinant human DCAMKL2 (1-690) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~105
DDR2	DDR2	Discoidin domain receptor 2	TKT; MIG20a; NTRKR3; TYRO10	Q16832	NP_001014796	Recombinant human DDR2 (467-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70
DMPK	DMPK	Myotonic Dystrophy Protein Kinase	DM; DM; DMK; MDPK; DM1PK; MT-PK	Q09013	NP_004400	Recombinant full-length human DMPK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~105
DY1A	DYRK1A	Dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 1A	DYRK, DYRK1, HP86, MNB, MNBH	Q13627	NP_569120		
DYR3	DYRK3	Dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3	DYRK5, RED, REDK, hYAK3-2	O43781	NP_003573		
EF2K	eEF2K	Eukaryotic elongation factor-2 kinase	HSU93850, MGC45041, eEF-2K	O00418	NP 037434	Recombinant full-length human EEF2K was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
EPA1	EPHA1	Ephrin type-A receptor 1	EPH, EPHT, EPHT1	P21709	NP_005223	Recombinant mouse EPHA1 (569-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
EPA2	EPHA2	Ephrin type-A receptor 2	ECK	P29317	NP_004422	Recombinant human EPHA2 (561-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72
EPA3	EPHA3	Ephrin type-A receptor 3	ETK, HEK, ETK1, HEK4, TYRO4	P29320	NP_005224	Recombinant human EPHA3 (571-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72
EPA4	EPHA4	Ephrin type-A receptor 4	SEK, HEK8, TYRO1	P54764	NP_004429	Recombinant human EPHA4 (610-887) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~58
EPA6	EPHA6	Ephrin type-A receptor 6	EPA6, FLJ35246, PRO57066, DKFZp434C1418	Q9UF33	NP_775926	Recombinant human EPHA6 (561-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
EPB1	EphB1	Ephrin type-B receptor 1	Elk, Net, Cek6, Elkh, Hek6, EPHT2, AW488255, 9330129L11	P54762	NP_004432	Recombinant mouse EPHB1 (591-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~62
EPB2	EphB2	Ephrin type-B receptor 2	DRT, ERK, CAPB, Hek5, PCBC, EPHT3, Tyro5, MGC87492	P29323	NP_059145	Recombinant human EPHB2 (570-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
EPB3	EphB3	Ephrin type-B receptor 3	ETK2, HEK2, Cek10, Mdk5, TYRO6	P54753	NP_004434	Recombinant human EPHB3 (585-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
EPB4	EphB4	Ephrin type-B receptor 4	HTK, MYK1, TYRO11, Mdk2	P54760	NP_004435	Recombinant human EPHB4 (561-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~50
ERK1	Erk1 (MAPK3)	Mitogen-activated protein kinase 3	MAPK3; PRKM3; P44ERK1; P44MAPK; HS44KDAP; HUMKER1A; MGC20180	P27361	AAA36142.1	Recombinant full-length, tag-free human ERK1 was expressed in Sf9 cells and activated by active MEK1in vitro.	~44
ERK2	Erk2 (MAPK1)	Mitogen-activated protein kinase 1	MAPK1, P42MAPK, MAPK2, PRKM2, PRKM1, p41mapk, ERT1, p40, p41, ERK	P28482	NP_002736	Recombinant full-length human ERK2 was expressed by E. coli cells using an N-terminal GST tag and activated by MEK1 in vitro.	~68
FAK1	FAK (PTK2)	Focal adhesion kinase 1	PTK2, FADK, FAK1, pp125FAK	Q05397	NP_722560	Recombinant human FAK (393-698) was expressed in Sf9 insect cells using an N-terminal His tag.	~35

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
FER1	Fer	Proto-oncogene tyrosine-protein kinase Fer	Fert, Fert2, AV082135, C330004K01Rik	P16591	NP_005237	Recombinant mouse FER (542-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~59
FES1	Fes (Fps)	Proto-oncogene tyrosine-protein kinase Fes/Fps	Fps	P07332	NP_001996	Recombinant full-length human FES was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
FGR1	FGFR1 (Flt2)	Basic fibroblast growth factor receptor 1	CEK; FLG; FLT2; KAL2; BFGFR; CD331; FGFBR; HBGFR; N-SAM; C-FGR	P11362	NP_000595	Recombinant human FGFR1 (399-822) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
FGRM	FGFR1 (Flt2) [V561M]	Basic fibroblast growth factor receptor 1	FLT2, CEK, FLG, KAL2, BFGFR, C-FGR, CD331, N-SAM	P11362	NP_000595	Recombinant human FGFR1 (399-822; V561M) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~75
FGR2	FGFR2	Basic fibroblast growth factor receptor 2	K-SAM, BFR-1, CEK3, ECT1, TK14, TK25, CD332, JWS, TK14	P21802	NP_000132	Recombinant human FGFR2 (285-end) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~72
FGR3	FGFR3	Fibroblast growth factor receptor 3	ACH, CEK2, JTK4, CD333, HSFGFR3EX	P22607	NP_000133	Recombinant human FGFR3 (397-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
FGR4	FGFR4	Fibroblast growth factor receptor 4		P22455	NP_002002	Recombinant human FGFR4 (460-end) was expressed by baculovirus in Sf9 cells using an N-terminal GST tag.	~65
FGR1	Fgr	Proto-oncogene tyrosine-protein kinase Fgr	SRC2, c-fgr, c-src, FLJ43153, MGC75096, p55c-fgr, p58c-fgr	P09769	NP_005239	Recombinant full-length human FGR was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~86
FLT1	Flt1	Vascular endothelial growth factor receptor 1 [Precursor]	FLT, VEGFR1	P17948	NP_002010	Recombinant human FLT1 (784-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~94
FLT3	Flt3	FL cytokine receptor	FLK2, STK1, CD135	P36888	NP_004110	Recombinant human FLT3 (571-993) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
FMS1	Fms (CSF1R)	Macrophage colony stimulating factor I receptor	CSF1R, CSFR, FIM2, C-FMS, CD115	P07333	NP_005202	Recombinant human FMS (539-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~76

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
FRK1	FRK	Fyn-related kinase	GTK; RAK; PTK5	P42685	NP_002022	Recombinant human FRK (208-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~60
FYN1	FynA	Fyn oncogene related to Src, Fgr, Yes	RP1-66H14.1; MGC45350; SLK; SYN	P06241	NP_002028	Recombinant full length human FYN A was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~85
GCK1	GCK	Mitogen-activated protein kinase kinase kinase kinase 2	MAP4K2, BL44, RAB8IP	Q12851	NP_004570	Recombinant full-length human GCK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
GRK5	GPRK5 (GRK5)	G protein-coupled receptor kinase 5	GPRK5	P34947	NP_005299	Recombinant full-length human GRK5 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~95
GRK6	GRK6	G protein-coupled receptor kinase 6	GPRK6	P43250	NP_002073	Recombinant full length human GRK6 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~93
GRK7	GRK7	G protein-coupled receptor kinase 7	GPRK7	Q8WTQ7	NP_631948	Recombinant full length human GRK7 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~89
GS3A	GSK3α	Glycogen synthase kinase-3 alpha	GSK3 alpha	P49840	NP_063937	Recombinant full-length human GSK3? was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~81
GS3B	GSK3β	Glycogen synthase kinase-3 beta	GSK3 beta	P49841	NP_002084	Recombinant full-length human GSK3? was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
HCK1	Hck	Hemopoietic cell kinase	JTK9	P08631	NP_002101	Recombinant human HCK (230-497) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~57
ERB2	HER2 (ErbB2, Neu)	v-erb-b2 erythroblastic leukemia viral oncogene homologue 2	CD340, HER-2, HER-2/neu, NEU, NGL, TKR1	P04626	NP_004439	Recombinant human HER2 (676-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~116
ERB4	HER4 (ErbB4)	Receptor tyrosine-protein kinase erbB4	HER4, MGC138404, p180erbB4	Q15303	NP_005226	Recombinant human ErbB4 (682-993) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~57

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
HIP1	HIPK1 (Myak)	Homeodomain-interacting protein kinase 1	Myak, Nbak2, KIAA0630, MGC26642, MGC33446, MGC33548	Q86Z02	NP_938009	Recombinant human HIPK1 (156-555) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
HIP3	HIPK3	Homeodomain-interacting protein kinase 3	PKY, YAK1, DYRK6, FIST3	Q9H422	NP_005725	Recombinant human HIPK3 (163-562) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~49
HIP4	HIPK4	Homeodomain interacting protein kinase 4	FLJ32818	Q8NE63	NP_653286	Recombinant full-length human HIPK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
IGF1	IGF1R	Insulin-like growth factor I receptor	CD221, IGFIR, JTK13, MGC142170, MGC142172	P08069	NP_000866	Recombinant human IGF1R (960-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~53
INSR	InsR	Insulin receptor [Precursor]	HHF5, CD220	P06213	NP_000199	Recombinant human InsR (1011-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~70
ISRR	INSRR (IRR)	Insulin receptor-related protein	IRR	P14616	NP_055030	Recombinant human IRR (945-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~65
IRA2	IRAK2	Interleukin-1 receptor-associated kinase-like 2	IRAK-2, MGC150550	O43187	NP_001561	Recombinant full-length human IRAK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~103
IRA4	IRAK4	Interleukin-1 receptor-associated kinase 4	IPD1, REN64, NY-REN-64	Q9NWZ3	NP_057207	Recombinant full-length human IRAK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~81
ITK1	Itk	Tyrosine-protein kinase Itk/Tsk	EMT, LYK, PSCTK2, MGC126257, MGC126258	Q08881	NP_005537	Recombinant human ITK (352-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~53
JAK3	JAK3	Tyrosine-protein kinase JAK3	JAKL, LJAK, JAK-3, L-JAK, JAK3_HUMAN	P52333	NP_000206	Recombinant human JAK3 (781-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~64
JNK1	JNK1 (MAPK8) - mouse	Mitogen-activated protein kinase 8	JNK, PRKM8, SAPK1, AI849689, JNK1A2, JNK21B1/2	P45983	NP_002741	Recombinant full-length mouse JNK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
JNK2	JNK2 (MAPK9)	Mitogen-activated protein kinase 9	JNK-55, JNK2, JNK2A, JNK2ALPHA, JNK2B, JNK2BETA, PRKM9, SAPK, p54a, p54aSAPK	P45984	NP_002743	Recombinant full-length human JNK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~70
JNK3	JNK3 (MAPK10)	Mitogen-activated protein kinase 10	FLJ12099, FLJ33785, JNK3, JNK3A, MGC50974, PRKM10, p493F12, p54bSAPK	P53779	NP_002744	Recombinant full-length human JNK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
KDR1	KDR (VEGFR2)	Kinase insert domain receptor	FLK1, VEGFR, VEGFR2	P35968	NP_002244	Recombinant human KDR (789-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
KHS1	KHS1 (MAP4K5)	Mitogen-activated protein kinase kinase kinase kinase 5	MAP4K5, KHS, GCKR, MAPKKKK5	Q9Y4K4	NP_006566	Recombinant full-length human KHS1 was expressed by baculovirus in Sf9 insect cells using an N-terminal tag.	~135
KIT1	Kit	Mast/stem cell growth factor receptor	PBT, SCFR, CD117	P10721	NP_000213	Recombinant human c-KIT (544-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~73
KITM	Kit [V654A]	Mast/stem cell growth factor receptor	PBT, SCFR, CD117	P10721	NP_000213	Recombinant human c-KIT (544-end, V654A) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
LCK1	Lck	Proto-oncogene tyrosine-protein kinase Lck	YT16, p56lck, pp58lck	P06239	NP_005347	Recombinant full-length human LCK was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~84
LIM1	LIMK1	LIM domain kinase 1	LIMK	P53667	NP_002305		~73
LKB1	LKB1	Serine-threonine-protein kinase 11	STK11; MO25a; STRADa	Q15831	NP_000446		~49
LOK1	LOK (STK10)	Serine/threonine-protein kinase 10	STK10, PRO2729	O94804	NP_005981	Recombinant human LOK (1-348) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
LRR2	LRRK2	Leucine-rich repeat kinase 2	AURA17, DARDARIN, PARK8, RIPK7, ROCO2	Q5S007	NP_940980.3		~290

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
LYNA	Lyn A	Tyrosine-protein kinase Lyn	JTK8, FLJ26625	P07948	NP_002341	Recombinant full-length human LYN A was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~81
LYNB	Lyn B	v-yes-1 Yamaguchi sarcoma viral related oncogene homolog	JTK8, FLJ26625, p65	P07948	NP_002341	Recombinant full-length human LYN B was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~85
MKA2	MAPKAPK2	Mitogen-activated protein kinase-activated protein kinase 2		P49137	NP_004750	Recombinant human MAPKAPK2 (46-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~68
MKA3	MAPKAPK3	Mitogen activated protein kinase activated protein kinase 3	3PK, MAPKAP3, 3pK	Q16644	NP_004626	Recombinant full-length human MAPKAPK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~69
MKA5	MAPKAPK5	Mitogen-activated protein kinase-activated protein kinase 5	PRAK	Q8IW41	NP_620777	Recombinant full-length human MAPKAPK5 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~79
MAR1	MARK1	MAP/microtubule affinity-regulating kinase 1	MARK, KIAA1477, MGC126512, MGC126513	Q9P0L2	NP_061120	Recombinant full-length human MARK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
MAR2	MARK2	MAP/microtubule affinity-regulating kinase 2	EMK1, MGC99619, PAR-1, Par1b, ELKL	Q7KZI7	NP_059672		~88
MAR3	MARK3	Microtubule affinity-regulating kinase 3	KP78, CTAK1, PAR1A	P27448	NP_002367	Recombinant full-length human MARK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
MAR4	MARK4	MAP-microtubule affinity-regulating kinase 4	MAP/microtubule affinity-regulating kinase-like 1	Q96L34	NP_113605		~83
MEKA	MEK1 (MAP2K1) [S218E, S222E]	Dual specificity mitogen-activated protein kinase kinase 1	MAP2K1, MKK1, MAPKK1, PRKMK1	Q02750	NP_002746	Recombinant full-length mouse MEK1 (S218E, S222E) was expressed in E. coli cells using a N-terminal GST tag.	~69
MEK1	MEK1 (MKK1, MAP2K1)	Dual specificity mitogen-activated protein kinase kinase 1	MAP2K1, MKK1, MAPKK1, PRKMK1	Q02750	NP_002746	Recombinant full-length human MEK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
MEK2	MEK2 (MAP2K2)	Dual specificity mitogen-activated protein kinase kinase 2	MAP2K2, MKK2, PRKMK2, MAPKK2	P36507	NP_109587	Recombinant full-length human MEK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
MKK2	MEKK2 (MAP3K2)	Mitogen-activated protein kinase (MAPK) kinase kinase 2	MAP3K2, MEKK2B	Q9Y2U5	NP_006600	Recombinant full-length human MEKK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~115
MKK3	MEKK3 (MAP3K3)	Mitogen-activated protein kinase kinase kinase 3	MAP3K3, MAPKKK3	Q99759	NP_002392	Recombinant full-length human MEKK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~105
MER1	Mer (MERTK)	Proto-oncogene tyrosine-protein kinase Mer	MER, MERTK, MGC133349	Q12866	NP_006334	Recombinant human MERTK (578-872) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~58
MET1	Met	Hepatocyte growth factor receptor	HGFR	P08581	NP_000236	Recombinant rat MET (958-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~74
MLK3	MLK3 (MAP3K11)	Mitogen-activated protein kinase kinase kinase 11	MGC17114; Mixed lineage kinase 3; MLK-3; MLK3; PTK1; SPRK	Q16584	NP_002410		~93
MNK1	MNK1 (MKNK1)	MAP kinase interacting serine/threonine kinase 1	RP11-49P4.3	Q9BUB5	NP_003675		~51
MNK2	MNK2 (MKNK2)	MAP kinase-interacting kinase 2	MKNK2, GPRK7	Q9HBH9	NP_060042	Recombinant full-length human MNK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~74
MRCA	MRCKα (CDC42BPA)	Myotonic dystrophy kinase-related Cdc42-binding kinase alpha	CDC42BPA, MRCK, PK428, FLJ23347, KIAA0451, DKFZp686L1738, DKFZp686P1738	Q5VT25	NP_003598	Recombinant human MRCKα (1-473) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag	~73
MRCB	MRCKβ (CDC42BPB)	Myotonic dystrophy kinase-related Cdc42-binding kinase beta	CDC42BPB, KIAA1124	Q9Y5S2	NP_006026	Recombinant human MRCKβ (1-473) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~73
MSK1	MSK1(PRS6KA5)	Mitogen- and stress-activated protein kinase 1	RPS6KA5, RLPK, MSPK1, MGC1911	O75582	NP_004746	Recombinant full-length human MSK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~120

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
MSS1	MSSK1 (STK23)	Serine/threonine-protein kinase 23	STK23, SRPK3, SFRS protein kinase 3, MGC102944	Q9UPE1	NP_055185	Recombinant full-length human MSSK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~98
MST1	MST1 (STK4)	Mammalian Sterile 20-like kinase 1	KRS2, YSK3, DKFZp686A2068, STK4	Q13043	NP_006273	Recombinant full-length human MST1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~83
MST2	MST2 (STK3)	Serine/threonine kinase 3	KRS1; MST2; FLJ90748	Q13188	NP_006272	Recombinant full-length human STK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~87
MST3	MST3 (STK24)	Mammalian Sterile 20-like kinase 3	STK24, MST-3, STK3, MST3B, RP11-111L24.5	Q9Y6E0	NP_003567	Recombinant human MST3 (1-311) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
MST4	MST4	Mammalian Sterile 20-like kinase 4	MASK, RP6-213H19.1	Q9P289	NP_057626	Recombinant full-length human MST4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~72
MUSK	MUSK	Muscle, skeletal receptor tyrosine protein kinase	MGC126323, MGC126324	O15146	NP_005583	Recombinant human MUSK (519-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
MYO3	MYO3β	Myosin IIIB	Myosin IIIB	Q8WXR4	NP_620482	Recombinant Human MYO3β (1-326) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
MYT1	MYT1	Membrane-associated tyrosine-and threonine-specific cdc2-inhibitory kinase	MYT1 kinase; PKMYT1	O14731	NP_004194		~55
NDR1	NDR1	Serine-threonine-protein kinase 38	STK38	Q15208	NP_009202	Recombinant full length human NDR was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~54
NK11	NEK11	Serine-threonine-protein kinase Nek11	BC009414; FLJ23495	Q8TBY1	NP_079076	Recombinant full-length human NEK11 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
NK02	NEK2	Serine/threonine-protein kinase Nek2	NLK1, HsPK21, NEK2A	P51955	NP_002488	Recombinant full-length human NEK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~76
NK03	NEK3	Serine-threonine-protein kinase Nek3	NimA-related protein kinase 3; HSPK 36; MGC29949	P51956	NP_002489	Recombinant full-length human NEK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~86

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
NK06	NEK6	NimA-related protein kinase 6	SID6-1512	Q9HC98	NP_055212	Recombinant full-length human NEK6 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
NK07	NEK7	NimA-related protein kinase 7		Q8TDX7	NP_598001	Recombinant full-length human NEK7 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
NK09	NEK9	Serine-threonine-protein kinase Nek9	NEK8, NERCC, NERCC1, MGC16714, MGC138306, DKFZp434D0935	Q8TD19	NP_149107	Recombinant human NEK9 (1-979; deleted fragment of 346-731) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~115
NUA2	NUAK2	NUAK family, SNF1-like kinase, 2	DKFZp434J037, DKFZp686F01113, FLJ90349, SNARK	Q9H093	NP_112214		
P38A	p38α (MAPK14)	Mitogen-activated protein kinase 14	CSBP1, CSBP2, CSPB1, PRKM14, PRKM15, SAPK2A, MAPK14, RK, p38, EXIP, Mxi2	Q16539	NP_001306	Recombinant full-length human p38alpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~67
P38B	p38β (MAPK11)	Mitogen-activated protein kinase 11	MAPK11, SAPK2, p38-2, PRKM11, SAPK2B, p38b, P38b2	Q15759	NP_002742.3	Recombinant full-length human p38beta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
P38D	p38δ (MAPK13)	Mitogen-activated protein kinase 13	SAPK4, PRKM13, MAPK13, MGC99536	O15264	NP_002745	Recombinant full-length human p38delta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
P38G	p38γ (MAPK12)	Mitogen-activated protein kinase 12	ERK3, ERK6, SAPK3, PRKM12, MAPK12	P53778	NP_002960	Recombinant full-length human p38gamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~71
P70A	p70S6K (RPS6KB1)	Ribosomal protein S6 kinase 1	S6K, PS6K, S6K1, STK14A, RPS6KB1, p70-alpha, p70(S6K)-alpha	P23443	NP_003152	Recombinant full-length human p70S6K was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~76

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
P70B	p70S6Kb (RPS6KB2)	Ribosomal protein S6 kinase, 70kDa, polypeptide 2	RPS6KB2, STK14B, KLS, P70-beta, P70-beta-1, P70-beta-2, S6K2, p70(S6K)-beta, S6K-beta2, SRK	Q9UBS0	NP_003943	Recombinant full-length human p70S6Kb was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~85
PAK1	PAK1/CDC42	Serine/threonine-protein kinase PAK 1	PAKalpha, MGC130000, MGC130001	Q13153	NP_002567	Recombinant full-length human PAK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag. Combined with Cdc42 in assays.	~96
PAK2	PAK2	p21 protein (Cdc42/Rac)-activated kinase 2	PAK65, PAKgamma, S6/H4 kinase	Q13177	NP_002568	Recombinant full-length mouse PAK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~58
PAK3	PAK3	Serine/threonine-protein kinase PAK3	Stk4, mPAK-3, Pak65beta, Pak65alpha	O75914	NP_002569	Recombinant full-length mouse PAK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~89
PAK4	PAK4	Serine/threonine-protein kinase PAK4	p21-activated kinase 4; PAK-4	O96013	NP_005875	Recombinant full-length human PAK4 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~90
PAK5	PAK5 (PAK7)	Serine/threonine-protein kinase PAK 7	PAK5, KIAA1264, MGC26232	Q9P286	NP_065074	Recombinant full-length human PAK7 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~130
PAK6	PAK6	Serine-threonine-protein kinase PAK 6	p21-activated kinase 6; PAK-6; PAK-5	Q9NQU5	NP_064553	Recombinant full-length human PAK6 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
PASK	PASK	PAS domain containing serine-threonine-protein kinase	STK37; PASKIN; KIAA0135; DKFZp434O051; DKFZp686P2031	Q96RG2	NP_055963	Recombinant human PASK (981-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
PBK1	PBK (TOPK)	T-lymphokine-activated killer cell-originated protein kinase	SPK, Nori-3, FLJ14385	Q96KB5	NP_060962	Recombinant full-length human TOPK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
PDGA	PDGFRα	Platelet-derived growth factor receptor alpha	CD140A, PDGFR2, MGC74795, Rhe-PDGFRA	P16234	NP_006197	Recombinant human PDGFRα (550-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~100

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PDGB	PDGFRβ	Platelet-derived growth factor receptor beta	JTK12, PDGFR, CD140B, PDGFR1	P09619	NP_002600	Recombinant human PDGFRbeta (557-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~104
PDK1	PDK1 (PDPK1)	3-Phosphoinositide-dependent protein kinase 1	PRO0461, PDPK1, MGC20087, MGC35290, PkB-like, PkB-like 1	O15530	NP_002604	Recombinant full-length human PDK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~67
PEK1	PEK (EIF2AK3)	Eukaryotic translation initiation factor 2-alpha kinase 3	DKFZp781H1925, HRI, PEK, PERK, WRS	Q9NZJ5	NP_004827		
PHK2	PHKG2	Phosphorylase b kinase gamma catalytic chain, testis-liver isoform	GSD9C; PHK-gamma-T; Phosphorylase kinase gamma subunit 2; PSK-C3	P15735	NP_000285	Recombinant full-length human PHKG2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~70
PIKT	PI3K (p110α/p65α)	Phosphatidylinositol 3-kinase-alpha	p110α; PIK3CA; MGC142161; MGC142163; p110-alpha			Recombinant full-length human p110alpha and truncated human p85alpha were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	
PIK1	PI3K (p110α/p85α)	Phosphatidylinositol 3-kinase-alpha	p110α; PIK3CA; MGC142161; MGC142163; p110-alpha			Recombinant full-length mouse p110alpha and human p85alpha were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~111
PIKM	PI3K (p110α (E545K/p85α)	Phosphatidylinositol 3-kinase-alpha	p110α; PIK3CA; MGC142161; MGC142163; p110-alpha			Recombinant full-length human p110α (E545K) mutant subunit and human p85-alpha wild-type subunit were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~111
PIK4	PI3K (p110δ/p85α)	Phosphatidylinositol 3-kinase-delta	p110δ			Recombinant full-length human p110δ and human p85α were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~111

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PIK2	PI3K (p110β/p85α)	Phosphatidylinositol 3-kinase-beta	p110α; PIK3CB; PI3K; PIK3C1; PI3Kbeta; MGC133043; p110-BETA; DKFZp779K1237;			Recombinant full-length human p110beta and human p85alpha were co-expressed by baculovirus in Sf9 insect cells using an N-terminal His tag on both proteins.	~111
PIK3	PI3K (p120γ)	Phosphatidylinositol 3-kinase-gamma	p110γ; PI3K; PIK3; PI3CG; PI3Kgamma			Recombinant full-length human PI3K (p120γ) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~121
PIM1	Pim1	Proto-oncogene serine/threonine-protein kinase Pim-1	PIM	P11309	NP_002639	Recombinant full-length human PIM1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~62
PIM2	Pim2	Serine/threonine-protein kinase Pim2		Q9P1W9	NP_006866	Recombinant full-length human PIM2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~61
PKAA	PKAcα (PRKACA)	cAMP-dependent protein kinase, alpha-catalytic subunit	PKAa, cAPKa, MGC48865, MGC102831	P17612	NP_002721	Recombinant full-length human PKAcalpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~69
PKAB	PKAcβ (PRKACB)	cAMP-dependent protein kinase, beta-catalytic subunit	PKAb, cAPKb, MGC9320, MGC41879, DKFZp781I2452	P22694	NP_891993	Recombinant full-length human PKAcbeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
PKAG	PKAcγ (PRKACG)	cAMP-dependent protein kinase, gamma-catalytic subunit	KAPG, PKAr, cAPKr	P22612	NP_002723	Recombinant full-length human PKAcgamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~65
PKCA	PKCα (PRKCA)	Protein kinase C, alpha type	AAG6, PKCA, PRKCA, PRKACA, MGC129900, MGC129901	P17252	NP_002728	Recombinant full-length human PKCalpha was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~103
PKC1	PKCβ1 (PRKCB1)	Protein kinase C, beta	PKCB; PRKCB; PRKCB2; MGC41878; PKC-beta	P05771	NP_002729	Recombinant full-length human PKCbeta I was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~102

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PKC2	PKCβ2 (PRKCB2)	Protein kinase C, beta type	PRKCB1, PKCB2, PRKCB1, PRKCB (X07109)	P05771	NP_002729	Recombinant full-length human PKCbeta II was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~105
PKCD	PKCδ (PRKCD)	Protein kinase C, delta	PRKCD, MAY1, MGC49908, nPKC-delta	Q05655	NP_006245	Recombinant full-length human PKCdelta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~104
PKCE	PKCε (PRKCE)	Protein kinase C, epsilon type	PRKCE, MGC125656, MGC125657, nPKC-epsilon	Q02156	NP_005391	Recombinant full-length human PKCepsilon was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~110
PKCG	PKCγ (PRKCG)	Protein kinase C, gamma type	PKCC, PKCG, SCA14, MGC57564, PKC-gamma, PRKCG	P05129	NP_002730	Recombinant full-length human PKCgamma was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~105
PKCH	PKCη (PRKCH)	Protein kinase C, eta	PKCL, PKC-L, PRKCL, MGC5363, MGC26269, nPKC-eta, PRKCH	P24723	NP_006246	Recombinant full-length human PKCeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~103
PKCI	PKCι (PRKCI)	Protein kinase C, iota type	PRKCI, DXS1179E, MGC26534, nPKC-iota	P41743	NP_002731	Recombinant full-length human PKCiota was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~98
PKCQ	PKCθ (PRKCQ)	Protein kinase C, theta	PRKCQ, PRKCT, MGC126514, MGC141919, nPKC-theta	Q04759	NP_006248	Recombinant full-length human PKC-theta was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~110
PKCZ	PKCζ (PRKCZ)	Protein kinase C, zeta type	PRKCZ, PRKCZ, PKC2	Q05513	NP_002735	Recombinant full-length human PKCzeta was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~93
PKD1	PKD1 (PRKD1, PKCμ)	Protein kinase C, mu	PKD, PKCM, PRKCM	Q15139	NP_002733	Recombinant full-length human PKCmu was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~131
PKD2	PKD2 (PRKD2)	Protein kinase C, D2	HSPC187, DKFZp586E0820, PRKD2	Q9BZL6	NP_057541	Recombinant full-length human PKD2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~130

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
PKD3	PKD3 (PRKD3, PKCv)	Protein kinase C, nu	PKCv, EPK2, PRKCN, PKD3, nPKC-NU	O94806	NP_005804	Recombinant full-length human PKCnu was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~142
PKG1	PKG1α (PRKG1A)	cGMP-dependent protein kinase 1, alpha	PGK, CGKI, PRKG1B, PRKGR1B, FLJ36117, MGC71944, cGKI-BETA, cGKI-alpha, DKFZp686K042	Q13976	NP_006249	Recombinant full-length human PRKG1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~100
PKN1	PKN1	Protein kinase N1	DBK, MGC46204, PAK1, PKN, PKN-ALPHA, PRK1, PRKCL1	Q16512	NP_998725		
PKN2	PKN2	Protein kinase N2	PRK2; PRKCL2, PKN2, PRK2, PAK2, Pak-2, PRO2042, MGC71074, MGC150606; Protein kinase C-like 2; Protein-kinase C-related kinase 2	Q16513	NP_006247	Recombinant full-length human PKN2/PRK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~145
PKR1	PKR (EIF2AK2)	Interferon-induced, double-stranded RNA-activated protein kinase	PKR, PRKR, EIF2AK1	P19525	NP_002750	Recombinant human EIF2AK2 (252-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~64
PLK1	PLK1	Serine/threonine-protein kinase Plk1	STPK13	P53350	NP_005021	Recombinant full-length human PLK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal His tag.	~70
PLK2	PLK2	Polo-like kinase 2	SNK	Q9NYY3	NP_006613		
PLK4	PLK4			O00444	NP_055079		
PYK2	PYK2 (PTK2B)	Protein tyrosine kinase 2 beta	FAK2, PTK2B, CADTK, FADK2, CAKB, PKB, PTK, RAFTK, PYK2	Q14289	NP_775266	Recombinant human PYK2 (360-690) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~39

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
QIK1	QIK (SNF1LK2)	SNF1-like kinase 2	DKFZp434K1115, KIAA0781, LOH11CR1I, SIK2	Q9H0K1	NP_056006		
RAF1	Raf1	Raf proto-oncogene serine/threonine-protein kinase		P04049	NP_002871	Recombinant human Raf1(306-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
RAFM	Raf1 [Y340E, Y341E]	Raf proto-oncogene serine/threonine-protein kinase		P04049	NP_002871	Recombinant human RAF1(Y340E Y341E, 306-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~63
RET1	Ret	Ret proto-oncogene-encoded kinase	CDHF12, HSCR1, MEN2A, MEN2B, MTC1, PTC, RET-ELE1	P07949	NP_066124		
RIP2	RIPK2	Receptor-interacting serine/threonine-protein kinase 2	RICK, RIP2, CARD3, CARDIAK, CCK, GIG30	O43353	NP_003812	Recombinant human RIPK2 (1-299) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~59
RIP5	RIPK5 (SGK496)	Receptor interacting protein kinase 5, isoform 1	DSTYK; DustyPK; HDCMD38P; KIAA0472; RIP5; SgK496	Q6XUX3	NP_056190	Recombinant full-length human RIPK5 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~140
ROKB	ROCK1 (ROKβ)	Rho-associated protein kinase 1	P160ROCK, ROCK-I, ROKbeta	Q13464	NP_005397	Recombinant human ROCK1 (17-535) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~85
ROKA	ROCK2 (ROKα)	Rho-associated protein kinase 2	KIAA0619, ROCK-II, ROKalpha	O75116	NP_004841	Recombinant human ROCK2 (5-554) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~88
RON1	RON (MST1R)	Macrophage-stimulating protein receptor	MST1R, PTK8, CDw136	Q04912	NP_002438	Recombinant human RON (983-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
ROS1	ROS	Proto-oncogene tyrosine-protein kinase ROS	c-ros-1; MCF3	P08922	NP_002935	Recombinant human ROS1 (1883-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~82
RSK1	RSK1 (RPS6KA2)	Ribosomal protein S6 kinase alpha 2	RPS6KA1, HU-1, MAPKAPK1A, S6K-alpha 1	Q15418	NP_066958	Recombinant full-length human RSK1 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~108

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
RSK2	RSK2 (PRS6KA3)	Ribosomal S6 kinase 2 (alpha 3)	RPS6KA3, HU-3, MAPKAPK1B, CLS, MRX19, ISPK-1, p90-RSK2, pp90RSK2, S6K-alpha3	P51812	NP_004577	Recombinant full-length human RSK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~112
RSK3	RSK3 (RPS6KA1)	Ribosomal protein S6 kinase alpha 1	RSK, HU-2, RPS6KA2, p90-RSK3, pp90RSK3, MAPKAPK1C, S6K-alpha, S6K-alpha2	Q15349	NP_002944	Recombinant full-length human RSK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~112
RSK4	RSK4 (RPS6KA6)	Ribosomal protein S6 kinase alpha 6	RPS6KA6	Q9UK32	NP_055311	Recombinant full-length human RSK4 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~112
SGK1	SGK1	Serine-threonine-protein kinase Sgk1	Serum/glucocorticoid-regulated kinase 1	O00141	NP_005618	Recombinant human SGK1 (60-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag	~73
SGK2	SGK2	Serine-threonine-protein kinase Sgk2	Serum/glucocorticoid-regulated kinase 2; H-SGK2; dJ138B7.2	Q9HBY8	NP_057360	Recombinant full-length human SGK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~71
SGK3	SGK3	Serine-threonine-protein kinase Sgk3	Serum/glucocorticoid-regulated kinase 3; CISK; SGKL	Q96BR1	NP_037389	Recombinant full-length human SGK3 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~82
SIK1	SIK	Serine-threonine-protein kinase SNF1-like kinase 1	BG719047; SNF1LK; MSK; SIK1	P57059	NP_775490	Recombinant human SIK (1-303) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~36
SKMK	skMLCK (MYLK2)	Myosin light chain kinase 2, skeletal/cardiac muscle	skMLCK, KMLC, MLCK, MLCK2	Q9H1R3	NP_149109	Recombinant full-length human MYLK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~74
SLK1	SLK	CTCL tumor antigen se20-9	Ste20-related serine/threonine kinase; LOSK; STK2; se20-9; KIAA0204; MGC133067; bA16H23.1	Q9H2G2	NP_055535	Recombinant full-length human SLK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~180
SMMK	smMLCK (MLCK2)	Myosin light chain kinase, smooth muscle and non-muscle isozymes	MYLK, MLCK2, KRP, MLCK108, MLCK210, MSTP083, FLJ12216, DKFZp686I10125	Q15746	NP_444253	Recombinant human MLCK (1425-1776) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~70

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
SRC1	Src	Proto-oncogene tyrosine-protein kinase Src	ASV, SRC1, c-SRC, p60-Src	P12931	NP_005408	Recombinant full-length human SRC was expressed in E.coli cells using an N-terminal GST tag.	~83
SRP1	SRPK1	SFRS protein kinase 1	SFRSK1	Q96SB4	NP_003128	Recombinant full-length human SRPK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~130
SRP2	SRPK2	SFRS protein kinase 2	FLJ36101, SFRSK2	P78362	NP_872633	Recombinant full-length human SRPK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~135
ST33	STK33	Serine/threonine-protein kinase 33		Q8NEF5	NP_112168	Recombinant full-length human STK33 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~94
SYK1	SYK	Tyrosine-protein kinase SYK	Spleen tyrosine kinase	P43405	NP_003168	Recombinant full-length human SYK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~100
TAK1	TAK1-TAB1	Mitogen-activated protein kinase kinase kinase 7	Transforming growth factor-beta-activated kinase 1; TGF-beta-activated kinase 1; MAP3K7	O43318	NP_003179	Recombinant human proteins TAK1 (1-303) and TAB1 (437-end), linked by a small peptide (DFGGGGG), were expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~74
TAO1	TAO1 (TAOK1)	Serine/threonine-protein kinase TAO1	PSK2, MARKK, MAP3K16, FLJ14314, KIAA1361	Q7L7X3	NP_065842	Recombinant human TAOK1 (1-314) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
TAO2	TAO2 (TAOK2)	Serine/threonine-protein kinase TAO2	PSK, PSK1, TAO1, TAO2, MAP3K17, KIAA0881	Q9UL54	NP_004774	Recombinant human TAOK2 (1-314) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~63
TAO3	TAO3 (TAOK3, JIK)	TAO kinase 3	DKFZp666H245, DPK, FLJ31808, JIK, MAP3K18, TAOK3	Q9H2K8	NP_057365		
TBK1	TBK1	TANK-binding kinase 1	NFkB-activating kinase, NAK, T2K, FLJ11330	Q9UHD2	NP_037386	Recombinant full-length human TBK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~105
TEC1	TEC	Tec protein-tyrosine kinase	MGC126760, MGC126762, PSCTK4	P42680	NP_003206		
TES1	TESK1	Dual-specificity testis-specific protein kinase 1	Testicular protein kinase 1	Q15569	NP_006276		

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
TGF1	TGFβR1	Transforming growth factor, beta receptor 1	AAT5, ACVRLK4, ALK-5, ALK5, LDS1A, LDS2A, SKR4; TGFR1	P36897	NP_004603	Recombinant human TGFβR1 (80-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~65
TGF2	TGFβR2	TGF-beta receptor type II	AAT3, FAA3, MFS2, RIIC, HNPCC6, TGFR-2, TGFbeta-RII, TAAD2	P37173	NP_003233	Recombinant human TGFβR2 (190-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~68
TIE2	Tie2 (Tek)	Angiopoietin 1 receptor	TEK, VMCM, VMCM1, CD202B	Q02763	NP_000450	Recombinant human TIE 2 (771-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~61
TLK2	TLK2	Serine-threonine-protein kinase tousled-like 2	MGC44450; PKU-ALPHA; Tousled-like kinase 2	Q86UE8	NP_006843	Recombinant human TLK2 (388-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~67
TRKA	TrkA (NTRK1)	High affinity nerve growth factor receptor	NTRK1, MTC, TRK, TRK1, p140-TrkA, DKFZp781I14186	P04629	NP_002520	Recombinant human TRKA (440-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~66
TRKB	TrkB (NTRK2)	BDNF/NT-3 growth factors receptor	Neurotrophic tyrosine kinase receptor type 2; NTRK2, GP145-TrkB	Q16620	NP_001018074	Recombinant human TRKB (455-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~67
TRKC	TrkC	NT-3 growth factor receptor	Neurotrophic tyrosine kinase receptor type 3; NTRK3, gp145(trkC)	Q16288	NP_002521	Recombinant human TRKC (507-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal His tag.	~38
TSS1	TSSK1 (STK22D)	Testis-specific serine kinase 1B	FKSG81, SPOGA4, STK22D, TSSK1	Q9BXA7	NP_114417		
TSS2	TSSK2 (STK22B)	Testis-specific serine/threonine protein kinase 2	DGS-G, SPOGA2, STK22B, FLJ38613	Q96PF2	NP_443732	Recombinant full-length human TSSK2 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~66
TTK1	TTK	Dual specificity protein kinase TTK	Phosphotyrosine picked threonine kinase; ESK; PYT; MPS1; MPS1L1; FLJ38280	P33981	NP_003309	Recombinant full-length human TTK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~130
TXK1	TXK	Tyrosine-protein kinase TXK	RLK, TKL, BTKL, PTK4, PSCTK5, MGC22473	P42681	NP_003319	Recombinant human TXK (239-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~53

Kinexus ID Code	Protein Kinase Name	Full Name	Alias	UniProt	Refseq	Description	Recombinant Mol. Mass (KDa)
TYK2	TYK2	Tyrosine kinase 2	JTK1	P29597	NP_003322		~125
TYR3	TYRO3 (RSE)	Tyrosine-protein kinase receptor TYRO3	BYK, RSE, Dtk, Sky, Tif, Brt	Q06418	NP_006284	Recombinant human TYRO3 (455-end) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~77
ULK1	ULK1	Serine-threonine-protein kinase ULK1	ATG1; FLJ38455; Unc-51-like kinase 1; UNC51; Unc51.1	O75385	NP_003556	Recombinant human ULK1 (1-649) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~125
ULK2	ULK2	Serine-threonine-protein kinase ULK2	KIAA0623; Unc-51-like kinase 2; Unc51.2	Q8IYT8	NP_055498	Recombinant human ULK2 (1-631) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~98
WEE1	WEE1	WEE1 homologue	DKFZp686I18166, FLJ16446, WEE1A, WEE1hu	P30291	NP_003381		
YES1	Yes (Yes1)	v-Yes-1 Yamaguchi sarcoma viral oncogene homologue 1	HsT441, P61-YES, Yes1, c-yes	P07947	NP_005424	Recombinant full length human YES1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~91
YSK1	YSK1 (STK25, SOK1)	Serine/threonine kinase 25	DKFZp686J1430, SOK1, STK25	O00506	NP_006365	Recombinant full length human YSK1 was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~76
ZAK1	ZAK	Sterile alpha motif and leucine zipper containing kinase AZK	AZK, MLK7, MLT, MLTK, MRK, mlklak	Q9NYL2	NP_057737	Recombinant full-length human ZAK was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.	~82
ZA70	ZAP70	Tyrosine-protein kinase ZAP-70	SRK, STD, ZAP-70	P43403	NP_001070	Recombinant full-length human ZAP70 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~96
ZC03	ZC3 (MINK1)	Mitogen-activated protein kinase kinase kinase kinase 6	B55, ZC3, MINK, YSK2, hMIN, MAP4K6, MGC21111, hMINKβ	Q8N4C8	NP_056531	Recombinant human MINK1 (1-320) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag.	~61