

# Parallel MAPK Pathways in Budding Yeast *S. cerevisiae*

## Mating pathway

$\alpha$  Factor      a Factor

Ste2      Ste3

Ste4  $G\beta$       Ste18  $G\gamma$

p102 Ste20

p82 Ste11

p57 Ste7

p40 Fus3      p43 Kss1

Ste12

Pseudo-hyphal growth

p102 Ste20

p82 Ste11

p57 Ste7

?

Starvation induced sporulation

Sps1

Smk1

Cell wall construction

p80 PKC1

p162 Bck1

p51 Mkk1

p53 Mpk

p50 Mkk2

Hyperosmotic medium

Sln1

Ssk1

Cla4

p174 Ssk2

p74 Pbs2

p47 Hog1

p40 Sho1

p145 Ssk22

