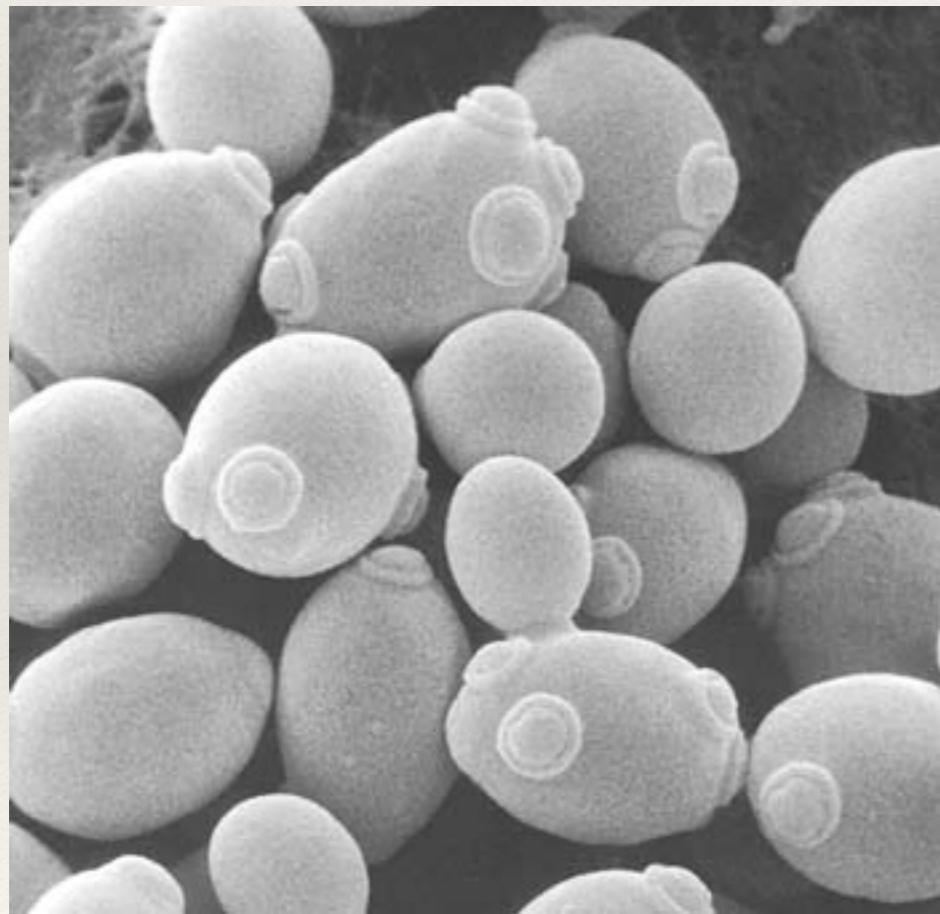
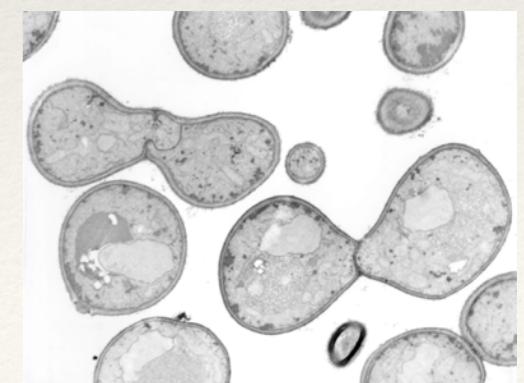
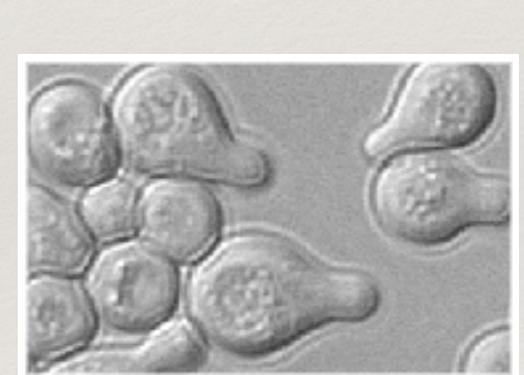
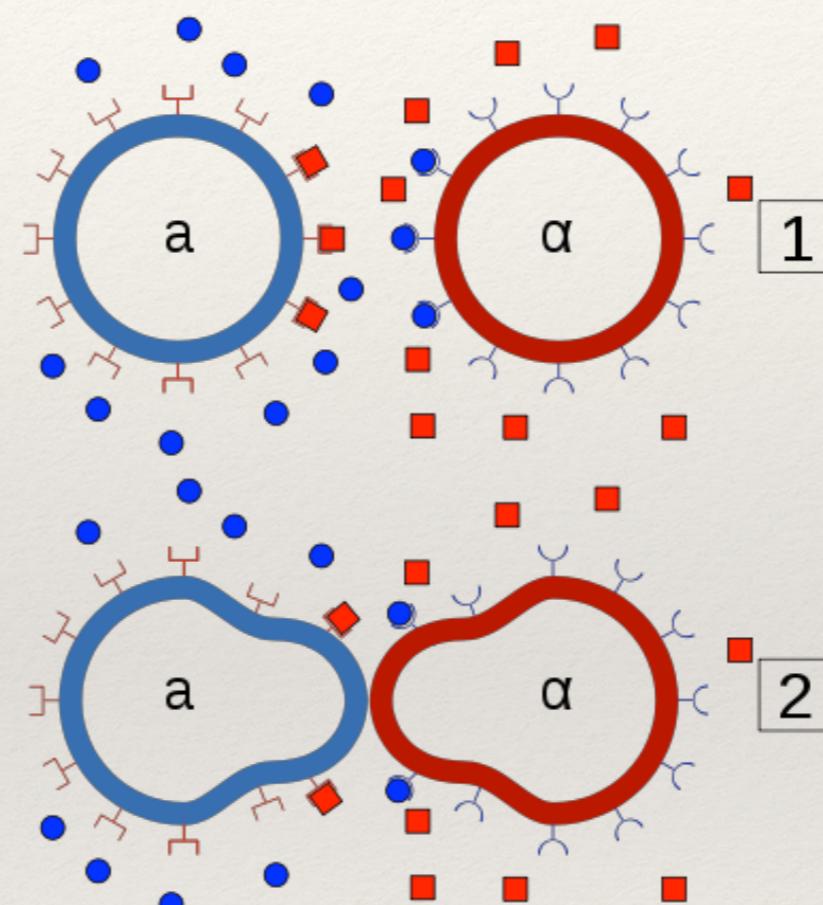
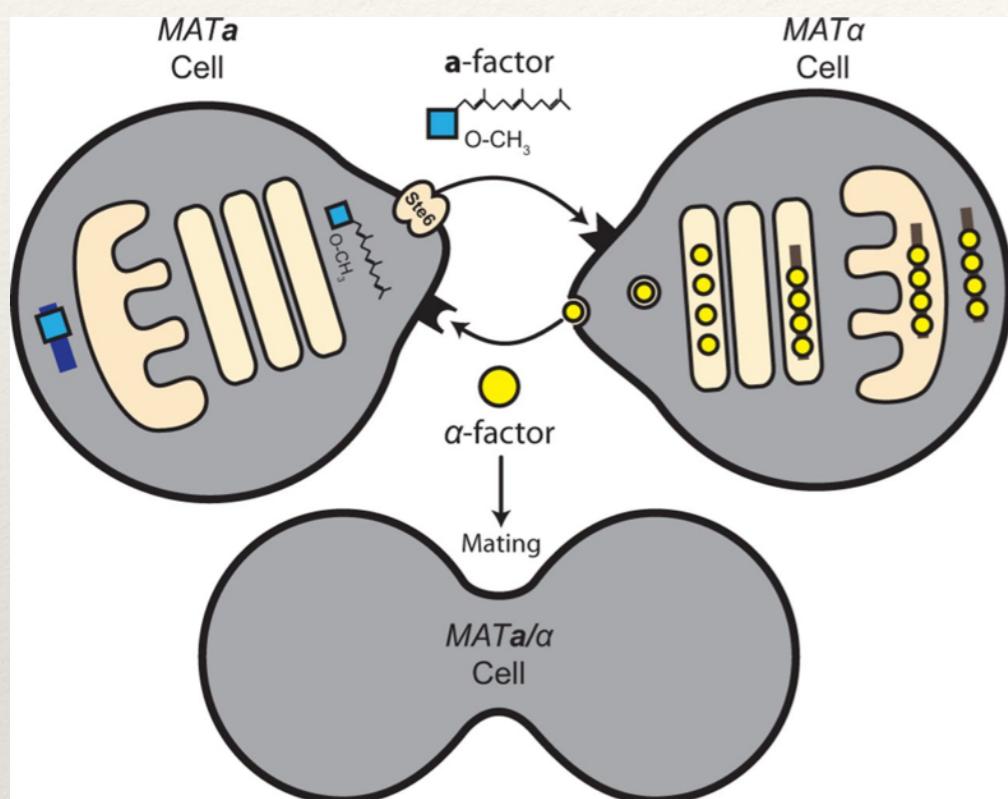


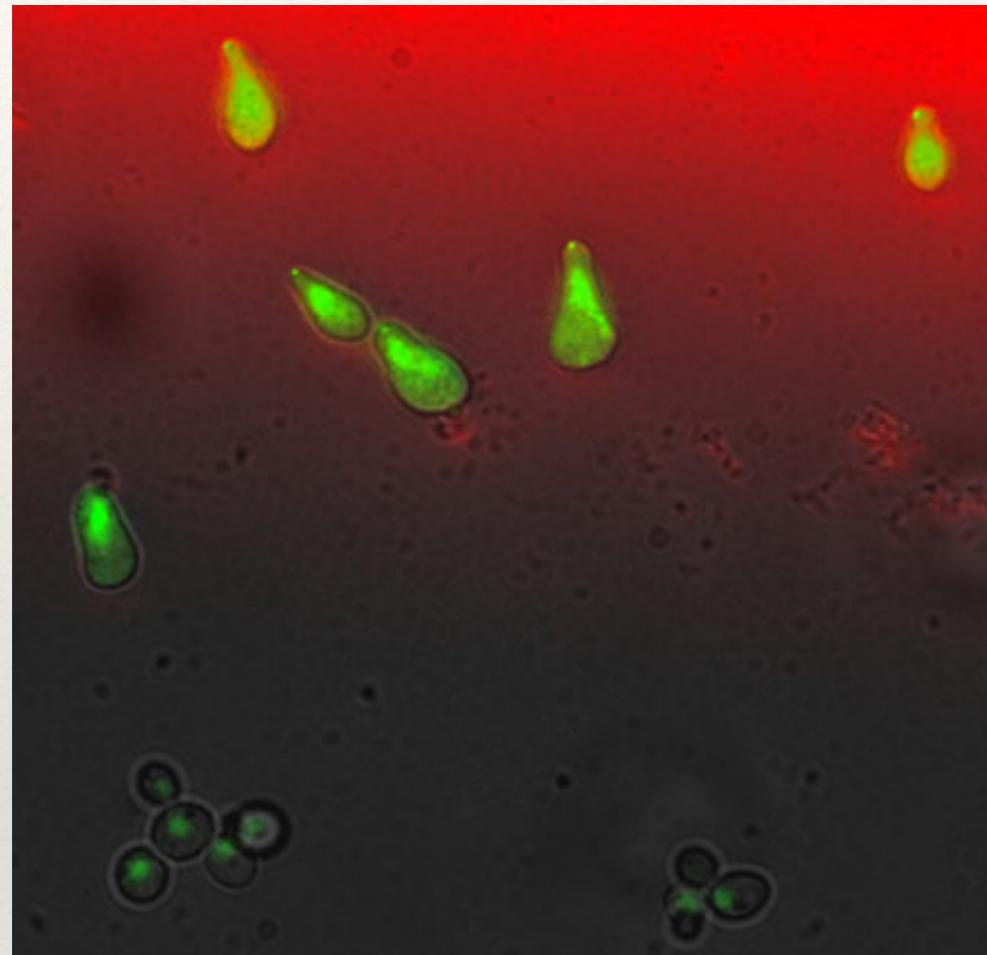
# “Budding” or “Bakers” Yeast

*Saccharomyces cerevisiae*



# The yeast mating response is regulated by pheromone signaling



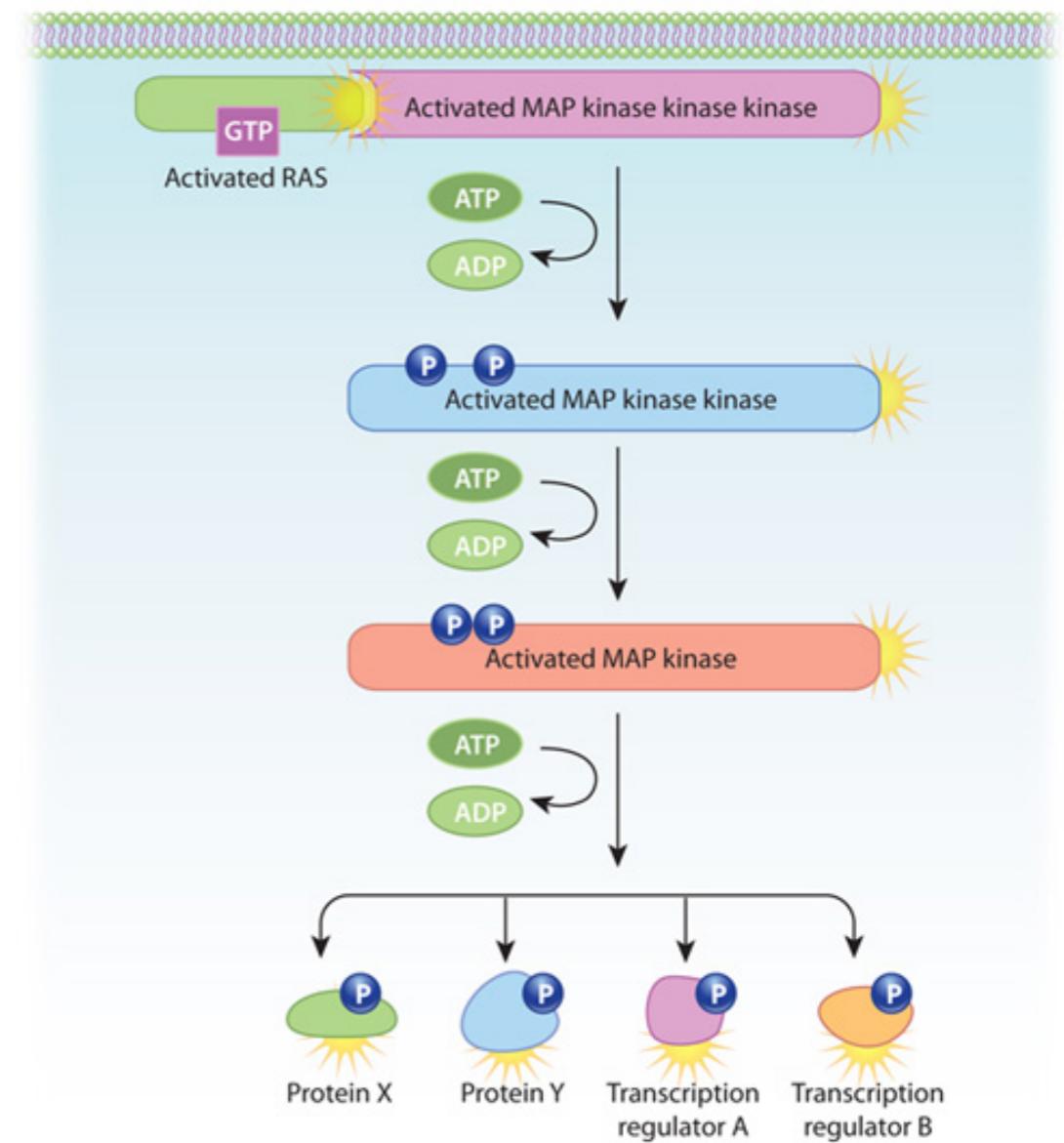
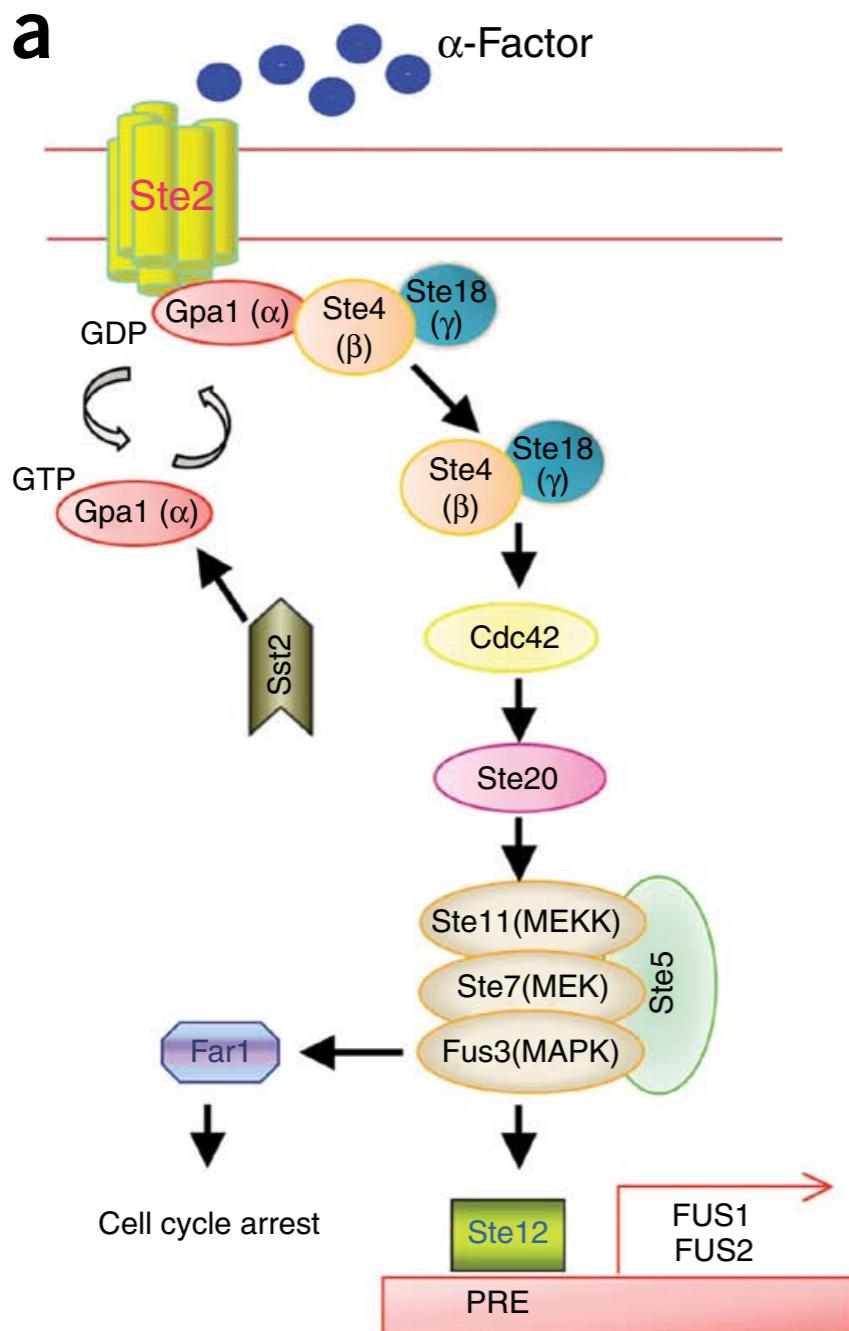


“Shmooing” yeast cells responding to a gradient of mating pheromone

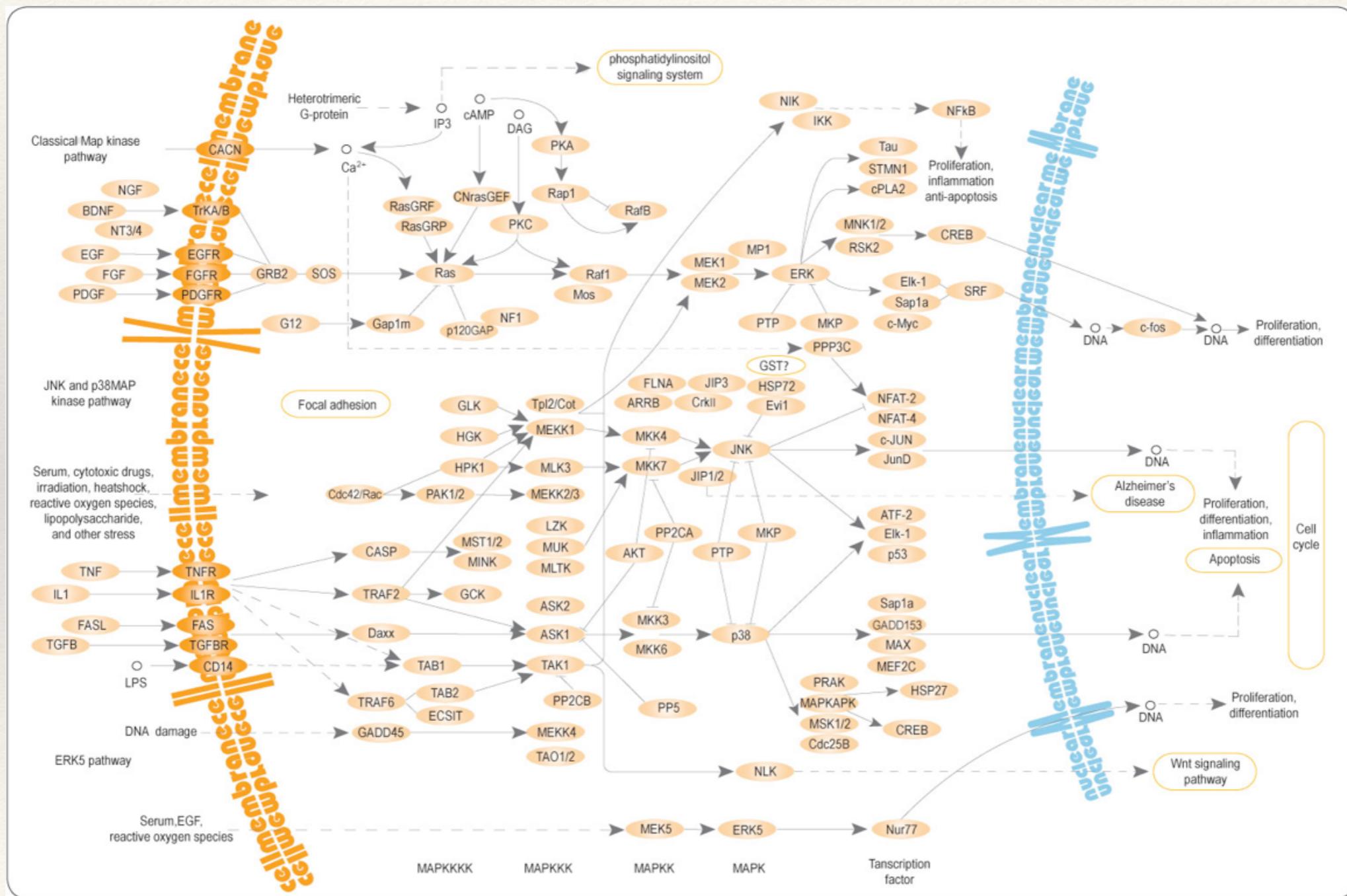


The term “shmoo” comes from the resemblance to a creature called the Shmoo from the Li'l Abner comic strip (Al Capp)

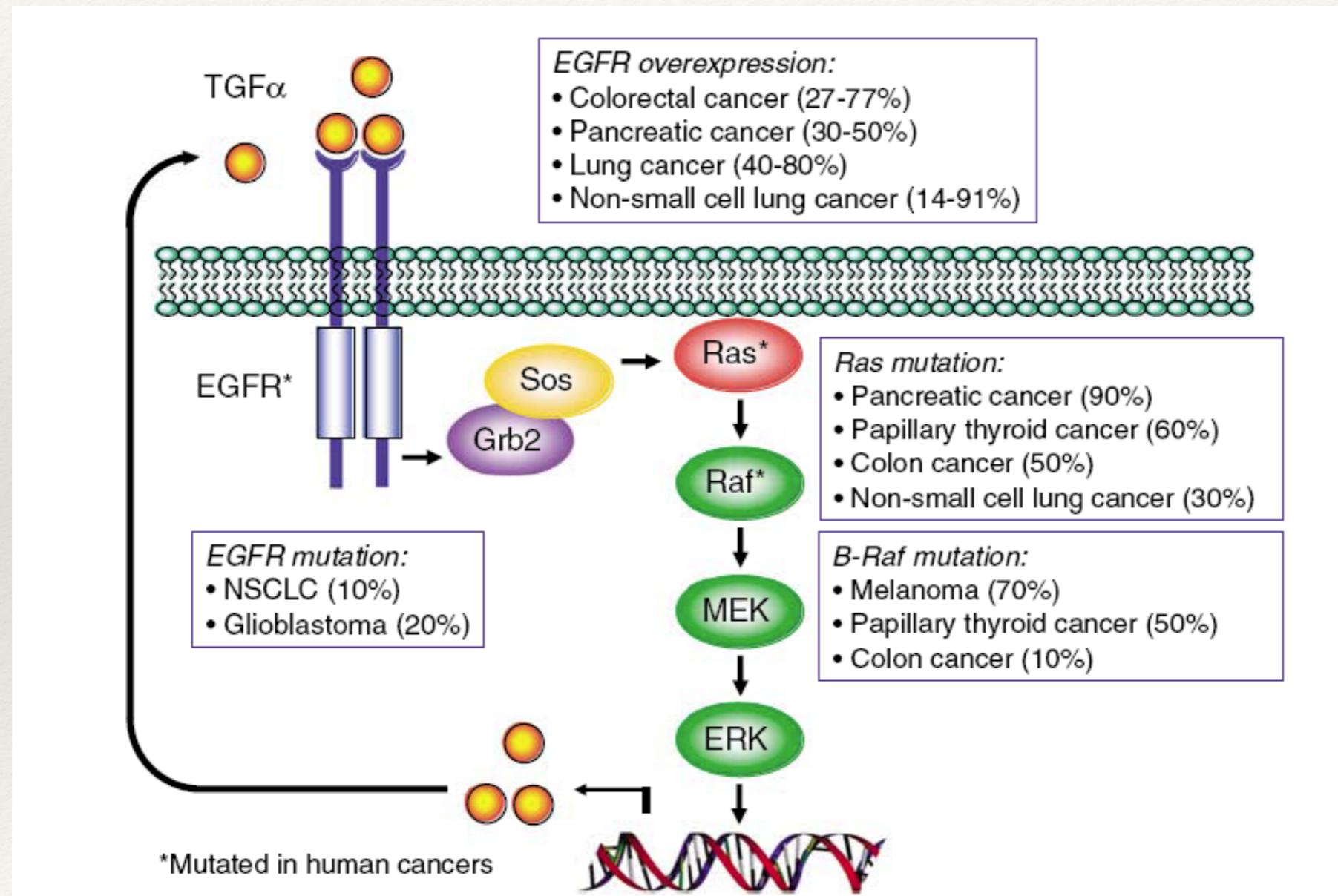
# The yeast pheromone signaling pathway involves a “kinase cascade”



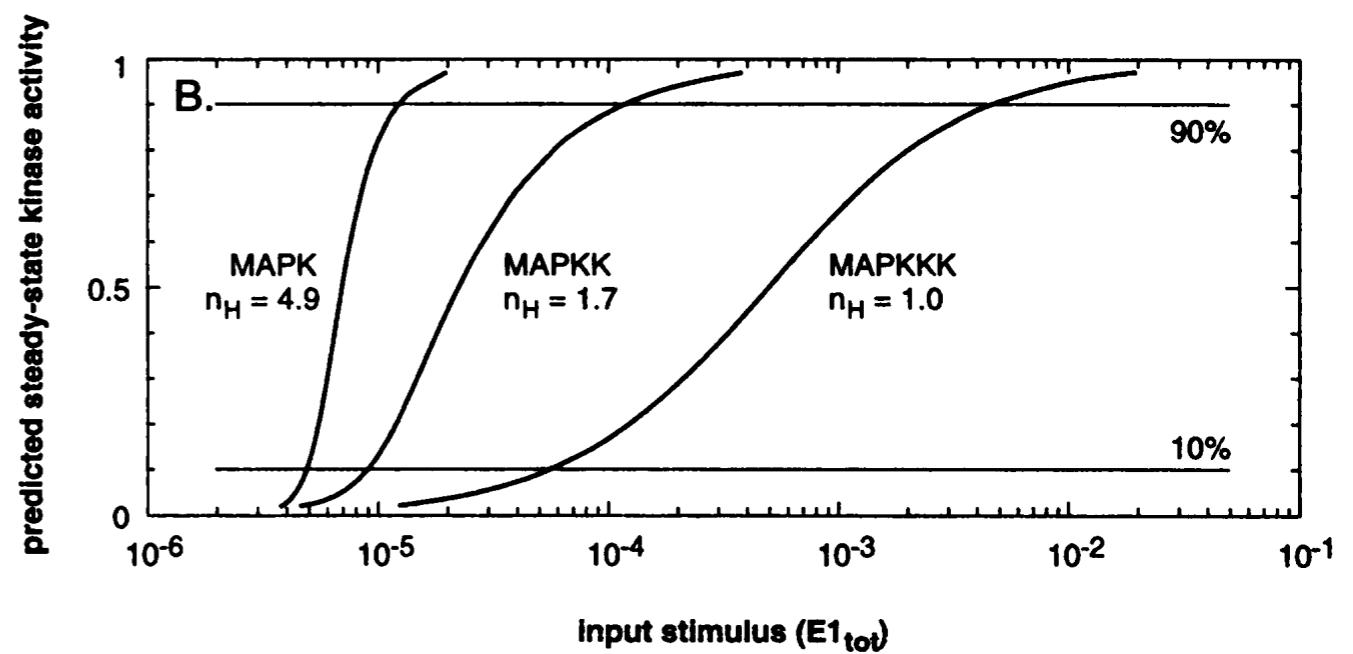
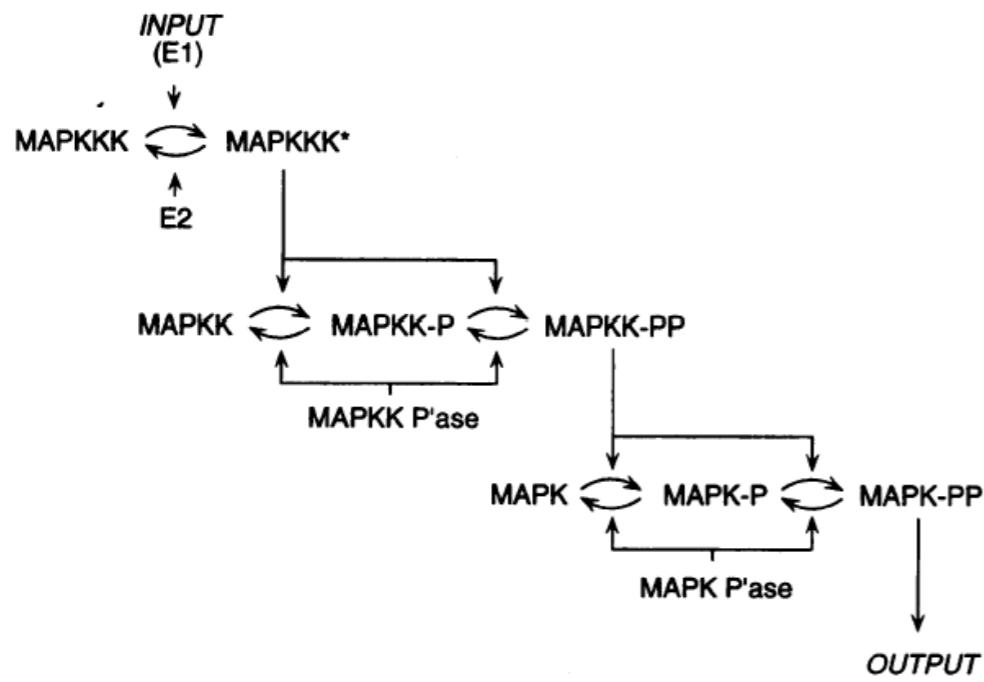
# An abundance of MAPK pathways regulated many processes in mammalian cells



# Kinase cascade mutations frequently contribute to a variety of cancers



# Kinase cascades convert graded signals into “ultra-sensitive” switch like responses



from Huang and Ferrell 1996

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In what context would it make sense to have a switch-like response rather than a graded response?

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