Mitogen-Activated Protein Kinase Signaling Cascades
Signaling Pathways Key

- **Kinase**: Direct Stimulatory Modification
- **Phosphatase**: Direct Inhibitory Modification
- **Transcription Factor**: Multistep Stimulatory Modification
- **Caspase**: Multistep Inhibitory Modification
- **Receptor**: Tentative Stimulatory Modification
- **Enzyme**: Tentative Inhibitory Modification
- **Cyclin, pro-apoptotic**: Transcriptional Stimulation
- **Pro-survival**: Transcriptional Inhibition
- **GAP / GEF**: Translocation
- **GTPase**: Separation of Subunits or Cleavage Products
- **G-protein, ribosomal subunit**: Joining of Subunits