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| --- | --- | --- | --- |
| Internal regulators | External regulators | Cyclin dependent kinase (Cdk) | Cyclin |
| Mitosis promoting factor (MPF) | Platelet derived growth factor (PDGF) | Density dependent inhibition | Cell-cell recognition |
| Local signaling | Receptor tyrosine kinase (RTK) | G2 phase | RAS |
| GTP | Phosphorylation cascade | Transcription factor | Transcription |
| Translation | Stimulates cell cycle | Proto-onco gene | UV light |
| DNA | p53 | Inhibits cell cycle | Proteins that signal apoptosis |
| Proteins that repair DNA | Proteins that bind Cdk’s | M phase | MAD |
| Sister chromatids | Kinetochore | Spindle fibers | Tumor suppressor gene |