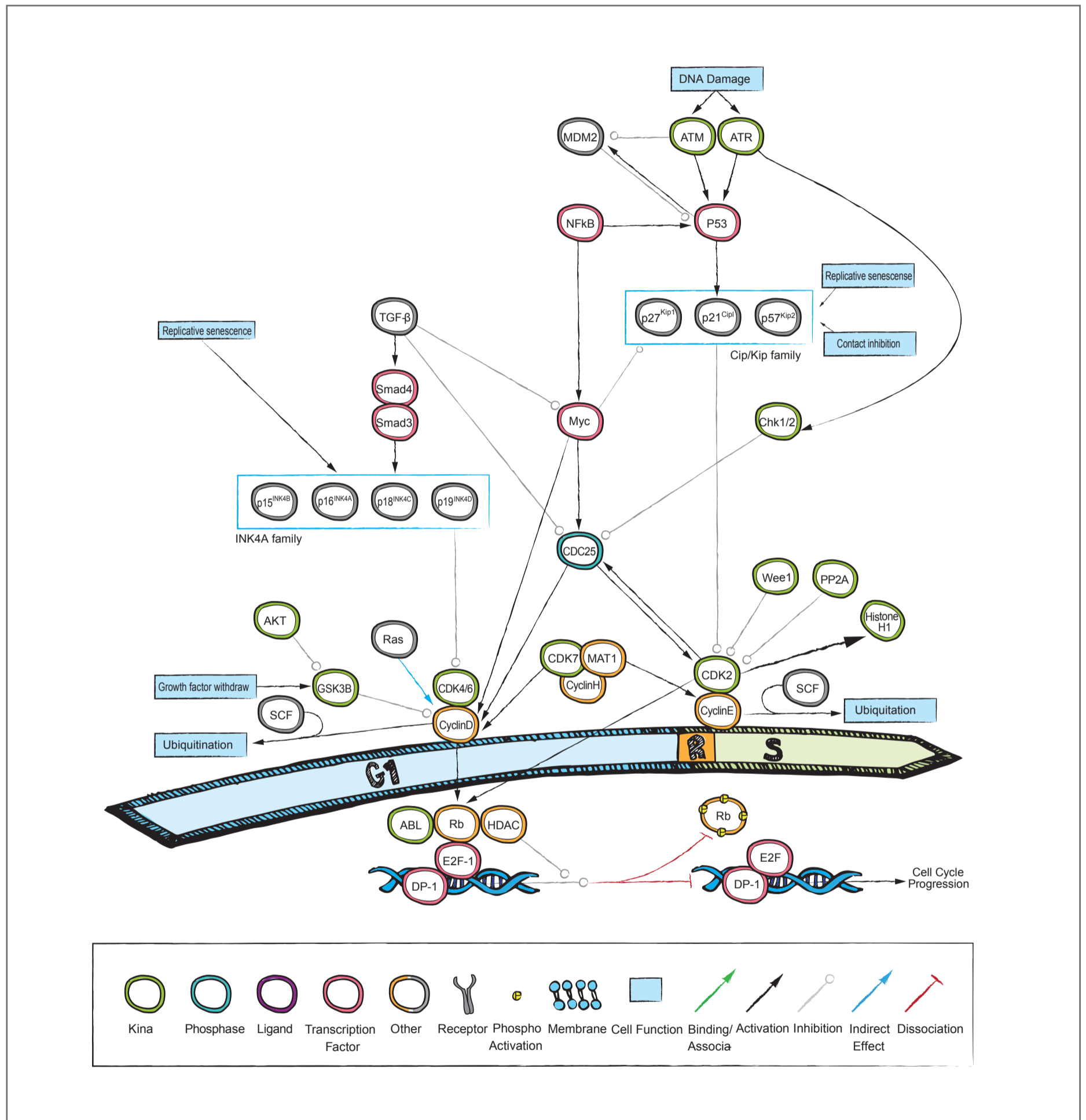


Featured Pathways & Targets

G1/S Checkpoint



Cell cycle checkpoints play an important role in detecting defects that occur during DNA replication and chromosome segregation; to ensure equal distribution of chromosomes and accurate cell division. G1/S checkpoint determines whether all conditions are favorable for cell division before proceeding to DNA synthesis. G2/M checkpoint prevents entry into mitosis upon DNA damage, and provides mechanisms for cells to repair damage before cell division. If the damage is irreparable, checkpoint signaling may activate pathways that leads to apoptosis. Checkpoint failure causes mutations, results in genetic instability, and leads to development of many diseases including cancer.