

# ⟳ Cell Cycle and Division

## G1 Phase (Gap 1)

Cell growth and normal metabolism. Decision point for division at G1/S checkpoint.

## S Phase (Synthesis)

DNA replication occurs. Chromosomes are duplicated. Histone synthesis.

## G2 Phase (Gap 2)

Preparation for mitosis. Protein synthesis and organelle duplication. G2/M checkpoint.

## M Phase (Mitosis)

Nuclear division: Prophase → Metaphase → Anaphase → Telophase → Cytokinesis

