WHAT REGULATES THE CELL CYCLE?

- Molecular control system drives cycle.
- G1, G2, M are the check points.
- Cyclins and cyclin-dependent kinases (Cdks)
- MPF’s (maturation promoting factor)
- Internal signals from the kinetochores
- external signals from PDGF factors.
CANCER CELLS ESCAPE FROM CELL CYCLE CONTROLS

- DENSITY DEPENDENT INHIBITION
- TRANSFORMATION
- BENIGN AND MALIGNANT TUMORS
- METASTASIS
- BREAST, COLON AND SKIN CANCER
**Figure 12.15** Fibroblast growth

**Figure 12.16** Density-dependent inhibition of cell division

**Figure 12.17** The growth and metastasis of a malignant breast tumor