Cell proliferation

Cell proliferation is the process that results in an increase of the number of cells, and is defined by the balance between cell divisions and cell loss through cell death or differentiation. Cell proliferation is increased in tumours.

The term cell growth is used in the contexts of cell development and cell division (reproduction). When used in the context of cell division, it refers to growth of cell populations, where a cell, known as the “mother cell”, grows and divides to produce two “daughter cells” (M phase). When used in the context of cell development, the term refers to increase in cytoplasmic and organelle volume (G1 phase), as well as increase in genetic material (G2 phase) following the replication during S phase.

Ion channels and transporters have increasingly recognized roles in cancer progression through the regulation of cell proliferation, migration, and death.

The rapid proliferation of tumor cells in a neoplastic microenvironment is largely due to hypoxia.