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Mitosis

National Cancer Institute

Source

National Cancer Institute. *Mitosis*. NCI Thesaurus. Code C16864.

The usual process of somatic reproduction of cells consisting of a sequence of modifications of the nucleus that result in the formation of two daughter cells with exactly the same chromosome and DNA content as that of the original cell. It is the process by which the body grows and replaces cells and is divided into four phases. In Prophase, paired chromosomes form, nuclear membrane disappears, the achromatic spindle appears, and polar bodies form. In Metaphase, chromosomes are arranged in the equatorial plane of the central spindle to form the monaster and chromosomes separate into exactly similar halves. In Anaphase, the two groups of daughter chromosomes separate and move along the fibers of the central spindle, each toward one of the asters, forming the diaster. In Telophase, the daughter chromosomes resolve themselves into a reticulum, the daughter nuclei are formed, and the cytoplasm divides forming two complete daughter cells.