

Microtubule/Tubulin

Microtubules are a component of the cytoskeleton, found throughout the cytoplasm. These tubular polymers of tubulin can grow as long as 50 micrometres, with an average length of 25 μ m, and are highly dynamic. The outer diameter of a microtubule is about 24 nm while the inner diameter is about 12 nm. Microtubules are found in eukaryotic cells and are formed by the polymerization of a dimer of two globular proteins, alpha and beta tubulin. Tubulin is one of several members of a small family of globular proteins. The tubulin superfamily includes five distinct families, the alpha-, beta-, gamma-, delta-, and epsilon-tubulins and a sixth family which is present only in kinetoplastid protozoa. The most common members of the tubulin family are α -tubulin and β -tubulin, the proteins that make up microtubules. Microtubules are very important in a number of cellular processes. They are involved in maintaining the structure of the cell.