

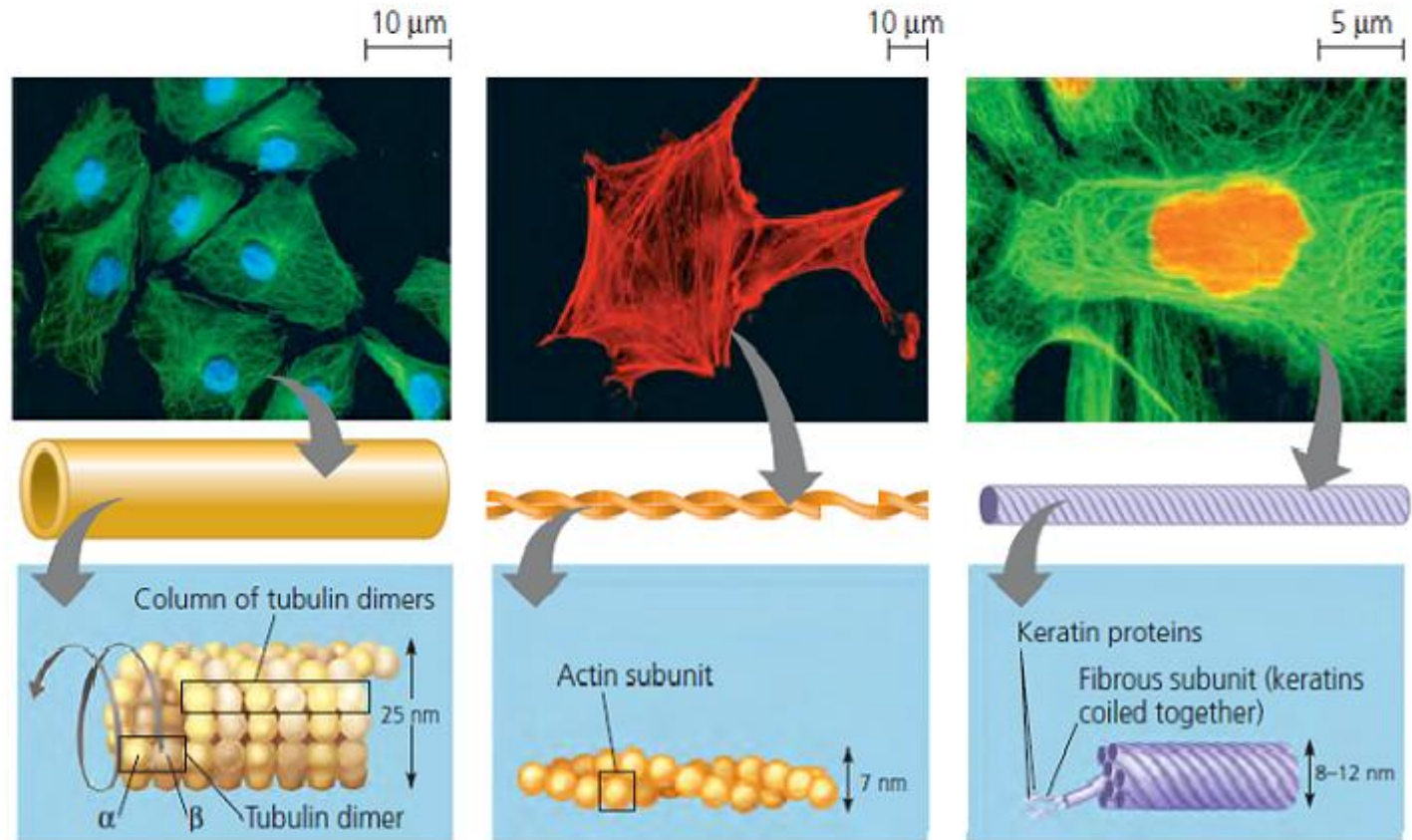
Части цитоскелета, их структура и функции

таблица из учебника биологии Campbell Biology, 9th Edition, 2012, JB Reece, LA Urry, ML Cain & 3 more

Table 6.1 The Structure and Function of the Cytoskeleton

| Property | Microtubules (Tubulin Polymers) | Microfilaments (Actin Filaments) | Intermediate Filaments |
|------------------|--|--|--|
| Structure | Hollow tubes; wall consists of 13 columns of tubulin molecules | Two intertwined strands of actin, each a polymer of actin subunits | Fibrous proteins supercoiled into thicker cables |
| Diameter | 25 nm with 15-nm lumen | 7 nm | 8–12 nm |
| Protein subunits | Tubulin, a dimer consisting of α -tubulin and β -tubulin | Actin | One of several different proteins (such as keratins), depending on cell type |
| Main functions | Maintenance of cell shape (compression-resisting “girders”) Cell motility (as in cilia or flagella) Chromosome movements in cell division Organelle movements | Maintenance of cell shape (tension-bearing elements) Changes in cell shape Muscle contraction Cytoplasmic streaming Cell motility (as in pseudopodia) Cell division (cleavage furrow formation) | Maintenance of cell shape (tension-bearing elements) Anchorage of nucleus and certain other organelles Formation of nuclear lamina |

Fluorescence micrographs of fibroblasts, a favorite cell type for cell biology studies. In each, the structure of interest has been tagged with fluorescent molecules. In the first and third micrographs, the DNA in the nucleus has also been tagged (blue or orange).



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