

Cell junctions

Cell junctions serve to connect and communicate with each other between cells. They are located on the basal and lateral sides of the cells. There are several types of cell connections:

- 1) tight junction
- 2) gap junction
- 3) adhesive - between cells (desmosomy, zonulae adhaerentes) or between cell and extracellular matrix (hemidesmosomes, focal contacts)

Tight junction

See the *Zonula occludens* page for more detailed information.

Zonula occludens = tight = a barrier around the perimeter full of proteins preventing the passage of substances, occurrence: between epithelial cells (intestine, pancreas, gastric mucosa) This connection lies most apically and represents the tightest connection of cells.

Gap junction

See the *Gap junctions* page for more detailed information

Nexus = conductive link = communication on membrane pores - connexons (formed by 6 connexins - occurrence in hexamers) - selective diffusion of molecules (smaller than 1.2 nm), direct communication, regulates elevated blood calcium level.

Adhesive

For more details see the page *Zonula adherens*.

Zonula adhaerens - occurrence: epithelia, proteins of the cadherin family, cells hold together, anchored actin filaments + accompanying proteins (vinculin, catenin).

Macula adhaerens = desmosome - occurrence: intestinal epithelium, skin, not at the entire edge of the cell, found only somewhere, cadherin family proteins, intermediate filaments, intracellular plate

Hemidesmosomes - occurrence: epithelial cell membrane, extracellular. mass + cell, cyokeratin intermediate filaments embedded in the intracellular plate, integrin proteins

Focal adhesion = contact - intercellular mass and cell, actin filaments, proteins of the integrin family, accompanying proteins: fibronectin, vinculin, talin, alpha-actinin, paxillin

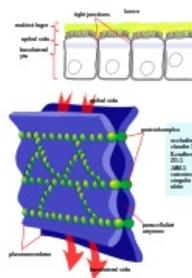
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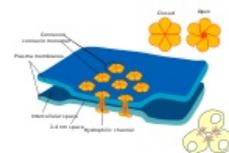
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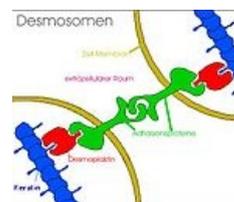
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Tight junction



Gap junction



Desmosom