

Membrane proteins:

- Allow cell communication with environment
- Make up about half the mass of plasma membrane
- Most have specialized membrane functions
- Some float freely, and some are tethered to intracellular structures
- Two types:
 - **Integral proteins**
 - **peripheral proteins**
- **Integral proteins**
 - Firmly inserted into membrane
 - Most are transmembrane proteins (span membrane)
 - Have both hydrophobic and hydrophilic regions
 - Hydrophobic areas interact with lipid tails
 - Hydrophilic areas interact with water
 - Function as:
 - Transport proteins (channels and carriers)
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- **Peripheral proteins**
 - Loosely attached to integral proteins
 - Include filaments on intracellular surface used for plasma membrane support
 - Function as:
 - Enzymes
 - Motor proteins for shape change during cell division and muscle connections
 - Cell-to-cell connections
 - Part of **glycocalyx**, serving as identification markers for cell recognition
 - Receptors for recognizing molecules

Cell junctions:

- Some cells are “free” (not bound to any other cells)
 - Examples: blood cells, sperm cells
- Most cells are bound together to form tissues and organs
- Three ways cells can be bound to each other
 - **Tight Junctions**
 - Integral proteins on adjacent cells fuse to form an impermeable junction that encircles whole cell
 - Prevent fluids and most molecules from moving in between cells
 - Found between epithelial cells lining digestive tract
 - **Desmosomes**
 - Rivet-like cell junction formed when linker proteins of neighboring cells interlock like the teeth of a zipper