

Caveolar Endocytosis

The best-known example of clathrin-independent endocytosis is **caveolar endocytosis**. **Caveolae** (“little caves”) are relatively small invaginations formed from a specialized type of plasma membrane microdomain enriched in cholesterol, several types of membrane lipids, signaling molecules, and ion channel regulatory proteins. Caveolae formation requires *caveolin*, an integral protein in the inner leaflet of the plasma membrane of numerous cells, but occurs most prominently in *endothelial cells* (cells that line the inner surface of blood and lymphatic vessels) and *adipocytes* (the principal cells in adipose tissue). Caveolar vesicle membrane curvature occurs when caveolin molecules associate to form an *oligomer* (a protein complex formed via non-covalent bonds). A group of cytoplasmic proteins called *cavins* assist in caveolae formation. The internalization of insulin receptors in adipocytes is an example of caveolar endocytosis.

caveolar endocytosis A type of clathrin-independent endocytosis that occurs most prominently in adipocytes and endothelial cells.

caveolae A special type of small invagination of the plasma membrane in some cells, which contain the protein caveolin and several types of lipid molecules; they are involved in signal transduction and endocytosis.