

At the cellular level

Fatty membranes separate inside from out

Lipid membranes are found in living things from bacteria to blue whales. Biological membranes contain a double layer of phospholipid molecules, as well as cholesterol (in some mammalian membranes and *Mycoplasma* bacteria) and glycolipids (see [‘Go with the flow’](#)). In eukaryotic cells, membranes are important for compartmentalisation – many of the organelles are bounded by lipid membranes, although not always in a double layer.

In adipocytes (fat cells), fats are stored for energy (see [‘Fat and obesity’](#)), while in nerve tissue they act as electrical insulators (see [‘Fat on the brain’](#)). The myelin sheath of a nerve cell is actually formed from the lipid membranes of other cells called Schwann cells, which grow to be much larger than other cells, meaning they can wrap themselves around the nerve axons. These particular membranes are also unusually rich in glycolipids. It’s thought that the glycolipids may help stick the myelin sheath and axon together.

Lipids also carry messages between cells. Prostaglandins, derived from fatty acid structures, are hormone-like molecules first discovered in sperm, but they have functions all over the body including in triggering inflammation and pain, clotting blood, and even inducing labour.

REFERENCES

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ABOUT THIS RESOURCE

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