



Biological pathways. Cells are constantly receiving cues from both inside and outside the body, which are prompted by such things as injury, infection, stress or even food. To react and adjust to these cues, cells send and receive signals through biological pathways. Some of the most common are involved in metabolism, the regulation of genes and the transmission of signals. While some molecules, like oxygen, can easily travel through the cell membrane, signals go through structures on the cell surface, called receptors. After interacting with a receptor, the signal travels through the cell where its message is transmitted and changed by specialized proteins or other molecules residing in the cell. Signals can be involved in chemical reactions, turning genes on or off, or even changing the shape of a cell.