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It's a known fact that melanopsin, a light sensitive protein present in the brain, helps regulate our biological clock by measuring the intensity of incoming light. And now scientists are saying that it also plays a role in vision.

For a long time, it was thought that the ability to convert light into electrical signals was restricted to only two types of photoreceptors: rods and cones. Recent discoveries by the team of researchers led by Satchidananda Panda (assistant professor in the Regulatory Biology Laboratory at the Salk Institute for Biological Studies in California) show that there's a third type of photoreceptor, the "melanopsin-expressing retinal ganglion cell" (mRGCs), in the deeper layers of the retina.

The scientists traced these cells with a coloured protein and discovered that the axons reached all the way to the lateral geniculate nucleus (LGN), the primary processing centre for visual information received from the retina. Furthermore, they found that exposure to intense blue light activated the LGN neurons, even in mice lacking functional rods and cones.

The latter characteristic means that one day it might be possible to treat people with degeneration of rods and cones. Satchidananda Panda feels that "if we could express melanopsin in a greater number of cells, we might be able to increase resolution to a point that allows blind people to safely navigate their environment".