How Plants Bend to Light

Written by Administrator Wednesday, 04 December 2013 23:18 -

How plants bend to light reported in ScienceDaily 7 & 14 November 2013. Anyone who has grown seedlings indoors near a window has observed that plants bend their stems so that their leaves are orientated to the light, a phenomenon known as phototrophism. If you turn the plants around the stems will bend back towards the light. The bending is caused by changes in the growth of cells in the stems, so that the cells on the dark side grow longer. Scientists studying the internal structure of plant cells have discovered how the change occurs. Plants cells have an internal scaffolding made up of structures called microtubules. The orientation of the microtubules affects many cell functions, including the formation of the cell wall and the overall shape of the cell.

The research team found when blue light was shone on cells, the microtubule scaffold was re-oriented by microtubules being broken and then re-growing at right angles to their previous direction. The blue light is detected by a receptor protein named phototropin, which sends a signal into the cell, which activates a protein named katanin. Katanin breaks the microtubules where they intersect with one another. The microtubule scaffolding is then re-formed, but at right angles to the original direction, resulting in trees of microtubules perpendicular to the original direction. As well as working out how cell shape is changed, the scientists also commented: "Our findings also have broader implications for the construction of cytoskeletons in other types of cells, including human cells, because katanin is conserved between animals and plants".

ScienceDaily

Editorial Comment: This research will certainly help understand how cells maintain and modify their structure, but it does not explain where these cell components came from, nor how they were built into a functioning system that makes plants orientate themselves towards a source of light. Beware when an evolutionist uses the word "conserved". The use of this word is a belief held by faith that animals and plants evolved from the same original cells that had microtubules and katanin. The reality is that animals and plants both have microtubules and katanin, which is only to be expected since all cells need such structural components to maintain and modify their structure. Such proteins are just like individual components in a complex machine, and like any machine parts, they can be built into different machines by an outside Creator to achieve different purposes. Man does this all the time ... deliberately, but notice a major difference ... plants bend when blue light is shone on them from one side, but you don't, even though your cells have microtubules and katanin. Again, it's a reminder that all organisms are unique and unrelated combinations of non-unique features. (Ref. biochemistry, design, botany)

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