

# Scientists study cilia -- microscopic hair

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Texas scientists studying microscopic hairs called cilia say they found an internal structure that's responsible for a cell's response to external signals.

The researchers at the University of Texas Southwest Medical Center studied cilia on algae and discovered the structure that helps build cilia also causes a cell's response to external signals.

Cilia perform many functions on human cells, the researchers noted. They propel egg and sperm cells to make fertilization possible; line the nose to detect odors; and purify the blood, among other tasks.

With such a range of abilities, cilia serve as both motors and "cellular antennae," said William Snell, a professor of cell biology at UT and senior author of the research.

Genetic defects in cilia can cause people to develop debilitating kidney disease or be born with learning disabilities, extra fingers or toes, or the inability to smell. But no one knows how cilia work, or, in some parts of the body, what their function is.

"There are cilia all over within our brain, and we don't have a clue about what they're doing," Snell said.

The results of the cilia study appear in the journal *Cell*.

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