

Tubular cell ‘highways’ could change what we know about cell interactions

[Researcher Yukiko Yamashita's] group had been studying how fruit flies maintain their sperm supply and had engineered certain cells involved in the process to produce specific sets of proteins. But instead of showing up in the engineered cells, some proteins seemed to have teleported to a different group of cells entirely.

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Yamashita saw some images of tiny tubes reaching out from one cell to another — delicate structures that might have been responsible for trafficking. Yamashita was sceptical, but decided to dig out images from her own postdoc project 12 years earlier. Sure enough, slender spikes jutted out towards the targeted cells.

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But Richard Cheney, a cell biologist at the University of North Carolina in Chapel Hill, is not ready to start revising the textbooks.... There's no question that long, thin protrusions are popping up all over the place, he says... "I'd probably bet on contact-based signalling, where you don't need very many copies of a molecule, as opposed to them acting like interstate highways," he says.

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Yamashita speculates that such connections may be more than conceptually related to neuronal synapses. "Membrane protrusions might have evolved first, and higher organisms could have started upgrading them to make neurons for more complicated functions," she says.

"It would change how we see tissues."

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [How the Internet of cells has biologists buzzing](#)