

# A newly discovered hormone makes ovaries grow

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A newly discovered hormone produced by the eggs of human females may improve the effectiveness of current fertility treatments for women and possibly lead to entirely new treatments altogether. According to new research published in the June 2013 issue of *The FASEB Journal*, researchers from Stanford and Akira University in Japan identified a new hormone called "R-spondin2" that promotes follicle development and stimulates ovary growth.

"The finding of a new ovarian [hormone](#) produced by the oocytes capable of stimulating ovarian follicle growth could lead to new infertility treatments," said Aaron J. W. Hsueh, Ph.D., a researcher involved in the work from the Division of Reproductive and [Stem Cell Biology](#) in the Department of Obstetrics and Gynecology at Stanford University Medical School in Stanford, California.

To make this discovery, Hsueh and colleagues analyzed all the proteins likely made by the eggs, and discovered a previously unknown hormone, called R-spondin2. The researchers then replicated this new hormone in test tubes and injected it into mice. The hormone stimulated growth of mouse ovarian cells, leading to the generation of mature eggs. These eggs were fertilized and led to successful pregnancies and the delivery of healthy pups. Then, human [ovarian tissue](#) was grafted into mice, and this also grew after treatment with this newly identified ovarian hormone, suggesting that the hormone could work in humans. The researchers speculate that when used in conjunction with the traditional Follicle Stimulating Hormone (FSH), this newly discovered ovarian hormone

could lead to new infertility treatment options for those not responding well to FSH treatment alone.

"Infertility can be very frustrating for couples who have been trying to conceive for a very long time. The discovery of this new hormone is a potential game-changer in human [fertility treatment](#)," said Gerald Weissmann, M.D., Editor-in-Chief of *The FASEB Journal*, "but further research is needed to determine its efficacy and safety in humans."

**More information:** Yuan Cheng, Kazuhiro Kawamura, Seido Takae, Masashi Deguchi, Qing Yang, Calvin Kuo, and Aaron J. W. Hsueh. Oocyte-derived R-spondin2 promotes ovarian follicle development. *FASEB J* June 2013 27:2175-2184 ; [doi:10.1096/fj.12-223412](https://doi.org/10.1096/fj.12-223412)

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