

What makes a female? How XX embryos destroy male reproductive tissue

A protein called COUP-TFII is [necessary to eliminate male reproductive tissue](#) from female mouse embryos, researchers report in the Aug. 18 Science. For decades, females have been considered the “default” sex in mammals. The new research overturns that idea, showing that making female reproductive organs is an active process that involves dismantling a primitive male tissue called the Wolffian duct.

In males, the Wolffian duct develops into the parts needed to ejaculate sperm, including the epididymis, vas deferens and seminal vesicles. In females, a similar embryonic tissue called the Müllerian duct develops into the fallopian tubes, uterus and vagina. Both duct tissues are present in early embryos.

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To the team’s surprise, the Wolffian duct remained in the female mice along with the female Müllerian duct. That shouldn’t happen, according to the textbooks. “We were just scratching our heads,” [researcher Humphrey] Yao says.

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COUP-TFII appears to be the foreman of a biochemical wrecking crew that demolishes the Wolffian duct in females.

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While the study used mice, COUP-TFII probably works the same way in other mammals, including humans, [biologist Patricia] Donahoe says. Females rarely still carry Wolffian duct remnants, sometimes leading to tumors. The opposite sometimes happens, too, resulting in males with female reproductive organs.

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion, and analysis. Read full, original post: [Embryos kill off male tissue to become female](#)