

## Treatment for Female Infertility

A novel treatment for a variety of conditions resulting in female infertility.

### Problem Solved by This Technology

Anti-Müllerian hormone (AMH) acts as a natural follicular gatekeeper limiting follicle growth initiation and maintains the primordial follicle pool during reproductive years. AMH is also an intra-ovarian regulator that inhibits follicular atresia at later stages of follicle development. Thus, low AMH levels lead to more rapid follicle loss contributing to pathophysiological conditions called diminished ovarian reserve (DOR) and premature ovarian failure (also known as premature ovarian aging and/or primary ovarian insufficiency).

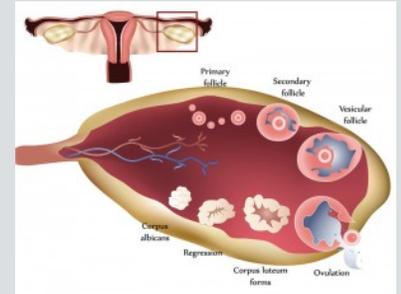
### Applications

Researchers at the University of Rochester and the Center for Human Reproduction have shown in an *in-vivo* model that administration of AMH offers a potential therapeutic option in preventing premature follicle loss, as seen in association with premature ovarian aging and/or primary ovarian insufficiency. In addition the researchers have shown that AMH administration decreases follicular death and delays ovulation. Moreover, AMH treatment prior to “superovulation” increased the number of ovulated oocytes in comparison to routine superovulation.

These data demonstrate AMH utility in several clinical applications:

- Treatment of infertility caused by DOR.
- Increasing harvested oocyte number during an induced ovulation cycle, generally used during fertility treatments such as IVF.
- Post-cancer-treatment “burnout” (a condition that occurs when chemotherapy drugs destroy currently developing follicles) results in greatly reduced AMH production. The low AMH level triggers a DOR-like condition as primordial follicles mature too quickly. Moreover, because the follicles mature too quickly, they do not produce enough AMH to slow the follicle maturation, creating a feedback loop. This results in running out of primordial follicles as in DOR and POI. AMH treatment can potentially prevent this chemotherapy associated “burnout” by maintaining a normal rate of primordial follicle recruitment.

URV Reference Number  
6-15070



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### Publication

E Hayes, V Kushnir, A Biswas, H Prizant, N Gleicher, A Sen, *Intracellular Mechanism of Anti-Müllerian Hormone (AMH) in Regulation of Follicular Development.* (under review in *Molecular and Cellular Endocrinology*).

### Intellectual Property Status

U.S. and foreign patent applications pending.

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