



## Zi-Jian Lan, Ph.D.

### Assistant Professor

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Craniofacial Biology  
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### Research Activities:

Our laboratory is mainly interested in understanding the functional roles of germ cell-expressing genes in male and female reproduction. Currently we are investigating the roles of fibroblast growth factors, ring/zinc finger proteins and hedgehog signaling molecules in those processes. We combine mouse genetic, molecular and cellular approaches to address the roles of these genes during reproduction. Characterization of the functions of these genes in the gonads would provide new leads for development of contraceptive agents, and diagnostic reagents and therapeutic medicines for infertility. In addition, we are also interested in exploring the role of ring/zinc finger proteins in steroid nuclear receptor action in the ovary and mammary gland *in vivo* and *in vitro*. The potential roles of human orthologs for ring/zinc finger proteins in breast and ovarian cancers are also being investigated.

### GRANTS FUNDED:

**Role:** COBRE supported junior investigator

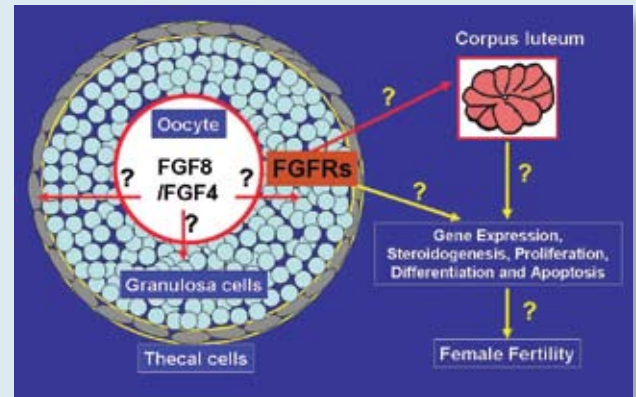
**Title:** The role of germ-cell expressing genes in reproduction

**Funding Agency:** National Institutes of Health/  
National Center for Research Resources

**Direct Costs Funded:** \$157,500

### Peer-reviewed Publications:

Zhao H, Li Z, Cooney AJ, **Lan ZJ**. Orphan nuclear receptor function in the ovary. *Frontier in Bioscience* 12:3398-3405 (2007).



Zhang H, Denhard LD, Zhou H, Liu L, **Lan ZJ**. 0610009K11Rik, a testis-specific and germ cell nuclear receptor-interacting protein. *Biochem Biophys Res Commun* 366(4):898-904 (2008).

Reddy P, Liu L, Adhikari D, Jagarlamudi K, Rajareddy S, Shen Y, Du C, Tang W, Hämäläinen T, Peng SL, **Lan ZJ**, Cooney AJ, Huhtaniemi I, and Liu K. Oocyte-specific deletion of Pten causes activation of the entire pool of primordial follicles. *Science* 319(5863):611-613 (2008).

Li Z, Zhang H, Denhard LA, Liu LH, Zhou H, **Lan ZJ**. Reduced white fat mass in adult mice bearing a truncated Patched 1. *Int J Biol Sci* 4(1):29-36 (2008).

**Lan ZJ**, Zhang H, Zhou H, Liu J, Denhard LA, Cooney AJ. (2008) Oocyte-specific expression of fibroblast growth factor 8 and its role in ovarian development. 41st Annual Meeting of the Society for the Study of Reproduction, Kona, HI, May 27-30, 2008.

