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Molecular mechanism of ovulation

Many gynecologists and obstetricians work as both physicians and scientists in Japan. As a physician-scientist, I would like to present our recent data on molecular mechanisms involved in ovulation in the ovary. Dynamic changes in female steroid hormone production (steroidogenesis) occur in ovarian cells after the ovulation signal, which is necessary for ovulation. We recently found out that the epigenetic mechanisms including histone modifications and chromatin remodeling regulate the expression of steroidogenesis-related genes in the ovary during ovulation. We believe that a precise understanding of the molecular mechanism of ovulation may provide a clue to understand the pathogenesis of several ovarian dysfunctions.

CV

Dr. Sugino received his M.D. (1985) and Ph.D. (1991) from Yamaguchi University School of Medicine. He did his postdoctoral training in reproductive and molecular biology in University of Illinois at Chicago (1996-1998). He has researched as a scientist and worked as a gynecologist and obstetrician in the Department of Obstetrics and Gynecology, Yamaguchi University Graduate School of Medicine, Japan, and he was promoted to Professor and Chairman in 2003. His research project focuses on reproductive physiology, particularly the molecular mechanisms involved in ovulation in the ovary and implantation in the human endometrium. He has published over 150 international scientific publications, invited reviews and book chapters. He is an active member of several international scientific societies, including *Society for Study of Reproduction (SSR)*, *Endocrine Society*, *American Society of Reproductive Medicine (ASRM)*, and *European Society of Human Reproduction and Embryology (ESHRE)*. He has also served on the editorial boards of, *Reproductive Medicine and Biology* (Editor-in-Chief, 2016-), *Journal of Reproduction and Development* (Co-Editor-in-Chief, 2003–present), *Journal of Ovarian Research* (2008–present), and *Human Reproduction* (2009–2013).