P0241

Expression Profiles of Prx I, II and III in Murine Reproductive System

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The imbalance between reactive oxygen species(ROS) production and total antioxidant capacity reproduction system is correlated with infertility. Therefore, this study was designed to investigate the expression patterns of peroxiredoxin (Prx), a member of antioxidant family, in reproductive system that includes testis, epididymis, ovary, oviduct, and uterus.

1. Prx I: In comparison with other kinds of tissues, the expression levels of Prx I in testis were the lowest, while those in ovary were the highest. The expression levels of Prx I in BCF1 mouse oviduct were very low compared with other type of mice, whereas those in epididymis were the highest.
2. Prx II: The expression levels of Prx II in all kinds of tissues were similar. But the levels in ovary and oviduct were a little high. Comparing with other kinds of mice, the expression levels of Prx II of 129/SvJ mouse in tissues were very low, while those of BCF1 and ICR mouse were relatively high.
3. Prx III: The expression levels of Prx III were very high compare to those of Prx I, Prx II . The levels of Prx III of C57bl/6J mouse were the highest compared to other types of mice. The levels of Prx III in Ovary relatively high and in oviduce apparently low compared to other kinds of tissues.

   Prx III showed the highest expression in male and female reproductive organs, Prx I and Prx II has locational contradictive expression level in female reproductive organ. However, the general pattern of Prx expression is dependant on the specific organ. In conclusion, Prx family seems to have a specific role in separative reproductive organ, respectively.

Key words) ***murine, reactive oxygen species, reproduction system***