

## EXPRESSION AND LOCALIZATION OF MECP2 GENE IN THE REPRODUCTIVE ORGANS OF HU SHEEP

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### **Introduction**

The human X-chromosomal gene methyl-CpG-binding protein 2(MECP2) was identified as an epigenetic factor capable of binding to methylated DNA. MECP2 is involved in fertility and early development; however, its involvement in the reproduction and fertility of females remains unclear. Therefore, the present study aimed to examine the presence of MECP2 in the reproductive organs of ewes during the estrus period.

### **Materials and Methods**

Female reproductive organs (ovaries, uteri, and oviducts) were collected from eight adult ewes at the Jiangyan Experimental Station (Taizhou, Jiangsu Province, China). Phenotypic traits are characterized by high fecundity and low fecundity (n=4).

### **Results and Discussion**

Results showed that MECP2 mRNA and protein were present in some reproductive organs of ewes during the estrus period. The highest levels of MECP2 mRNA and protein occurred in the uterine horn and oviductal ampulla and the lowest in the uterine cervix and oviductal infundibulum. Higher levels of MECP2 messenger RNA and proteins occur in the ovaries and oviductal ampulla of high-fertility ewes. Immunohistochemical analysis revealed that MECP2 protein was mainly located in luminal and glandular epithelial cells of the uterus and oviduct, and in the theca and granulosa cells of the ovary. Further studies are required to evaluate the function of MECP2 in reproduction.