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The Differential Gene Expression Patterns in Endometrial Tissue of Sows in Early Gestation

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Although studies for important genes concerned in preimplantation stage that encompasses the period from fertilization to implantation were reported for mice and cows, little information relevant to this subject is known in pigs.

In this study to investigate changes of importantly expressed genes in pig endometrial tissue from fertilization to implantation stage, six genes including ER- α , ER- β , Bax, LIF, LR(LIF receptor) and IGFII-R were selected. Bax, LIF, LR and IGFII-R genes are known as important marker genes during preimplantation in the bovine species and ER- α and ER- β are known as important gene during implantation in pigs. As a step towards understanding the gene expression changes of pig endometrium during preimplantation stage (2day, 7day, 12day, 33day), Realtime PCR method were adopted for quantitative analysis of genes.

The results of this experiment indicated that LIF expression increased during from 7day to 33day of pregnancy, while LR and Bax reached peak on 12day of pregnancy, while IGF-IIR and ER-alpha expressions were decreased from 2day to 33day, suggesting increased requirement of LIF but decreased requirement of ER-alpha to implantation during early gestation in pigs.

Key words: *LIF, ER-alpha, Preimplantation, Gene expression, Pig*