

Selective Gene Express Profiles in Rat Uterus during Estrus Cycle

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The uterus undergoes dynamic changes during the cycle and displays many features typical of developmental process. In order to be prepared for implantation, endometrium undergoes predictable, sequential phases of proliferation and secretory changes. The uterus during estrus cycle synthesizes a complex of signaling molecules with specific spatial and temporal modes of expression and which are critical for cell proliferation and differentiation. The purpose of this investigation was to use cDNA microarrays to evaluate the expression of genes of rat uterus in estrus cycle. Animals were sacrificed on proestrus, estrus, metestrus, diestrus. Differential gene expression profiles were revealed (growth-related c-myc responsive protein RCL, heat shock 47-kDa protein (HSP47), cytochrome c oxidase polypeptide VIc2 (COX6C2), calreticulin (CALR)). Reverse transcription polymerase chain reaction (RT-PCR) was used to validate the relative expression pattern. Using this approach, we found several genes whose expression in rat uterus was altered with estrus cycle. Our long-term goal is to determine the role of these differentially expressed genes during estrus cycle. This study was supported by through the Biohealth Products Research Center (BPRC), Inje University

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