

DIFFERENTIAL GENE EXPRESSION PROFILES OF EMBRYOS IN REX RABBITS WITH DIFFERENT WOOL DENSITY

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ABSTRACT

Rex Rabbit is one of the world's major with rabbit fur, hair density is an important factor affecting the quality of their hides. But the research of the hair density on molecular area was rarely reported. In order to screen differentially expressed genes in embryonic Rex Rabbits with different wool density. The Agilent's Rabbit Gene Expression Microarray was used to determine the differentially expressed genes; The expression patterns of selected differentially expressed genes were further indentified by quantitative real-time PCR (Q-RT-PCR). A total of 1342 differentially expressed genes associated with Rex rabbit wool density were screened out. These genes included 950 up-regulated genes and 392 down-regulated genes. Gene ontology (GO) analysis revealed that most of the differentially expressed genes were distributed in the cell and plasma membranes and belonged to the receptors and DNA binding molecules. KGGE pathway analysis revealed that these differential genes were mainly involved in the signaling pathways of typical Sonic Hedgehog (Shh) etc.

The results suggest that the genes expression profile of embryonic Rex rabbits with different wool density is different, and some important genes identified may be useful in further study on wool density molecular markers of Rex rabbits.

Key words: embryonic Rex rabbits; wool density; gene expression; gene chip

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