

## CLONING AND EXPRESSION OF WILD BOAR CIRP GENE AFTER COLD-INDUCTION

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**Abstract.** Cold inducible RNA binding protein ( CIRP ) is one of the mammalian cold shock proteins (CSPs) whose expression is up-regulated in response to moderate hypothermia (typically, 25 ~ 33°C). This study was designed to clone the complete coding sequence of the wild boar CIRP gene, and to analyze its expression characteristics under culture conditions of different low temperatures. The cDNA sequence of CIRP, in length of 519 bp was cloned from wild boar fibroblasts under mild cold-treatment. CIRP cDNA encodes a protein of 172 amino acids, which consists of an amino-terminal RNA-binding domain and a carboxyl-terminal glycine-rich domain. The amino acid sequence of CIRP has high homology with other species and is highly conserved during evolution. CIRP cDNA was not isolated from the cells treated at 37°C, 15°C and 4°C. This maybe because the CIRP mRNA abundance in cells was too low without low-temperature-induction, the reverse transcription product is not sufficient as a template to amplify the target gene. Relative quantitation PCR analysis of extract form the northeast boar fibroblasts showed that CIRP mRNA levels was increased markedly in response to mild cold treatment( 32°C and 25°C), but not to severe cold treatment (15°C and 4°C).

**Keywords:** Cold-induced, Wild boar, Fibroblasts, CIRP gene, Cloning, Expression.