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Stable transfection and identification of a hair follicle-specific expression vector of IGFBP-5 in goat fetal fibroblasts

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ABSTRACT. The insulin-like growth factor-binding protein-5 (IGFBP-5) is one of the 6 members of the IGFBP family and is involved in the regulation of cell growth, apoptosis, and other IGF-stimulated signaling pathways. To determine the significance of IGFBP-5 in the Inner Mongolia Cashmere goat (*Capra hircus*), a hair follicle-specific expression vector of IGFBP-5, pCDsRed2-K-IGFBP5 (6.7 kb), was constructed by cloning *IGFBP-5* downstream of the keratin-association protein (KAP)6-1 promoter and inserting this fragment into pCDsRed2, which contains a red fluorescent protein (DsRed) expression unit. Inner Mongolia Cashmere goat fetal fibroblast (GFb) cells were transfected with the expression vector by using Lipofectamine™ 2000. Cell clones that stably expressed red fluorescence were obtained after selection with Geneticin (G418). The transgene in the cell clones was examined by polymerase chain reaction to verify that exogenous DNA (pKAP6-1 and IGFBP-5) had integrated stably into GFb cells. These data suggest

that this method can be used for the construction of a hair follicle-specific expression vector for functional genetic analyses and for obtaining stable transfection donor cells for nuclear transfer.

Key words: Inner Mongolia Cashmere goat; IGFBP-5;
Hair follicle-specific expression vector; Stable transfection

