Case Report

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Efficiency comparison between vectors containing the genomic or complementary DNA sequences of human growth hormone in an animal model of gene therapy

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Abstract

Our institution has been working with gene therapy models for growth hormone deficiency. We are the use of an in vivo approach in which expression vectors containing the increase hormone (GH) gene are administered in mice, followed via electro transference. In previous research, increased levels of human GH (hGH) in mice serum (~20 ng/ mL) and excessive growth approximation to ordinary mice (lure-up growth) of ~70% for frame weight and of ~eighty% for femur duration had been acquired, the use of a plasmid containing the genomic series (gDNA) of GH with the ubiquitin-C promoter. On the alternative hand, we had an illustration that the complementary series (cDNA) also can have a bonus over gDNA in gene treatment protocols. Our aim is to carry out a comparative have a have a look at amongst vectors containing the hGH gDNA or cDNA sequences. First, the two vectors were analyzed for in vitro expression tiers by the usage of transfecting HEK-293 cells. Expression tiers reached 250+50 ng hGH/mL for gDNA and 20+nine.Four ng hGH/mL for cDNA transfected cells. Although in vitro expression of cDNA-containing vector modified into lower than that containing gDNA, we accept as real with the cDNA vector can also have better expression in vivo, because of a likely better incorporation by way of manner of the muscle cells in electro transference. Then, bioassays may be completed administering those vectors into dwarf mice, through electro transference in the muscle. This will confirm the expression profile of GH in vivo, regarding tiers and durability, in addition to frame weight, traditional body, tail and femur duration, mouse insulin-like increase issue-1 ranges and seize-up increase.

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