

PURIFICATION, SOLUBILIZATION AND CHARACTERIZATION OF EQUINE GROWTH HORMONE

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The pituitary growth hormone (GH) is a protein of 191 amino acids, which is synthesised and secreted by the somatotroph cells within the anterior pituitary gland. GH stimulates growth and cell reproduction in humans and other vertebrate. The monomer of GH presents molecular mass about 20 kDa. Structural studies have been carried out on GH from several species, and have demonstrated substantial specific variation for each group. The biotechnological applications of this hormone in the animal area are multiple and are in different stages of development. In this work, the equine GH was extracted from the sub-product of the FSH and LH crude extract, originating an insoluble source. This product was submitted to several solubility tests. The GH was insoluble in a pH range from 4 to 10, but it was soluble in DMSO and in natural oil. The GH was extract at pH 7.2 and 9.5 by 20% ammonium sulfate precipitation and purified by molecular exclusion on Sephadex G-100 column. The protein obtained was analyzed by gel electrophoresis (SDS-PAGE) where have been observed a molecular band mass of 20.200. The presence of GH in the fractions from chromatography was confirmed by Western Blot with specific antibody.

Keywords: Growth hormone; equine; pituitary.

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