

Beta-endorphin has been produced by bacterial synthesis via a genetic-engineering technique. As well, it has been synthesized by solid-phase synthesis.

3.11 Dynorphin

The partial primary structure of dynorphin, a novel porcine pituitary endorphin having the N-terminus sequence of Leu-enkephalin, has been disclosed (13 out of 17 amino acids could be sequenced). The synthetic replicate of the 13-peptide is seven hundred times more potent than Leu-enkephalin and fifty times more potent than beta-endorphin in biological assays. The high potency and the considerable immunoreactivity that this peptide displays in assays with antisera have been used for the immunohistochemical localization of Leu-enkephalin.

3.12 Oxytocin and Vasopressins

Oxytocin and the vasopressins, 8-arginine and 8-lysine vasopressin, are the major posterior-pituitary hormones found among the higher mammals. These nonapeptides exert a variety of physiological effects, such as milk ejection and uterine contraction by oxytocin, and pressor action and an antidiuretic effect for vasopressins. Synthesized in the hypothalamus, these hormones are attached to their carrier proteins, the neurophysins, and travel to, and are stored within, the posterior-pituitary lobe.