

designed. Analogues can inhibit ovulation in the rat at a single dose of 20 micrograms. They can also terminate pregnancy and inhibit spermatogenesis in the rat.

3.7 Somatostatin (SS)

Somatostatin (SS) was isolated from ovine hypothalamic extracts because of its characteristic inhibition of the spontaneous release of GH by cultured pituitary cells. Additionally, SS inhibits GH secretion that is mediated by most known secretagogues. It also inhibits a large number of other secretions, such as TSH, PRL, insulin, glucagon, acetylcholine, gastrin, gastric acid and other digestive enzymes. SS is distributed throughout the brain and the gastrointestinal tract. It also is found in mammalian plasma, in the rat retina, and in the human adrenal medulla. It appears to exist in longer forms in several biological tissues. Some of them may represent precursors of the tetradecapeptide.

One of the longer forms, which was isolated from porcine intestine, has been characterized as a 28 amino acid peptide. Its similarity to the larger forms of brain somatostatin and its possible physiological role is unclear. The 14 amino acid peptide has been isolated and characterized from the pigeon pancreas, the anglerfish pancreatic islet, and the rat extrahypothalamic brain. SS from the latter sources is identical to the mammalian hypothalamic tetradecapeptide SS.