

purity. As was mentioned earlier, recent work in the field of structure-activity relationships has demonstrated that fragments or substituted analogues are of equal or greater potency, except in the case of neurotoxins, when compared with the parent molecule. In addition, they may exhibit long-acting or antagonistic activities.

The following sections describe bioregulators that have been the subject of extensive research. Much of the material can be found in such common sources as The Merck Index (Third Edition) and The Kirk-Othmer Encyclopedia of Chemical Technology (Third Edition).

3.4 Substance P

Substance P was originally detected in the acid-alcohol extracts of equine brain and intestine. It was subsequently isolated from bovine hypothalami. It is also present in the spinal cord, in the gastrointestinal tract, and in mammalian lung. Substance P was first isolated for its hypotensive action and stimulation of rabbit jejunum contraction. Later it was found to produce salivation in rats. Substance P also stimulates glucagon secretion and produces hyperglycemia in the rat. It stimulates smooth muscle contraction in the guinea pig vas deferens and ileum, and elevates GH and PRL secretion.