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## Product Information

### Somatotropin (STH) from porcine pituitary

Product Number **S 8648**  
Storage Temperature 2-8 °C

#### Product Description

CAS Number: 9002-72-6

pI: 4.9<sup>1</sup>

Synonyms: growth hormone, GH

Somatotropin is a protein hormone produced by the anterior pituitary gland situated at the base of the brain. It is composed of 191 amino acids and has a molecular weight of approximately 22 kDa.<sup>2</sup>

Somatotropin is more commonly known as growth hormone (GH). GH is the most abundantly produced hormone from the pituitary gland. It has been shown to promote body growth by binding to receptors on the surface of liver cells. This leads to the release of insulin-like growth factor-1 (IGF-1; also known as somatomedin), which acts directly on the ends of the long bones, promoting their growth. GH is also involved in regulation of muscle growth through the action of IGF-1 on myocytes. GH also mobilizes fat for energy usage, while at the same time sparing proteins from being utilized. It binds to GH receptors on the surface of adipocytes, leading to lipid release into the blood stream and blockage of lipid uptake for storage.

Somatotropin has been shown to be regulated by both growth hormone releasing hormone (GHRH) and somatostatin. Both of these hormones are produced by the hypothalamus of the brain. GHRH has been shown to cause the secretion of somatotropin, while somatostatin inhibits the release of GH. This regulatory feedback mechanism keeps the levels of GH at the appropriate level.

This product is isolated from porcine pituitary glands.<sup>3</sup> No extender or stabilizer is added to this product during preparation.

#### Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

#### Preparation Instructions

This product is soluble up to 5 mg/ml in basic buffers, such as ethanolamine or carbonate, pH 9-10. However, it should be diluted with 50 mM Tris-HCl buffer to a final pH of 7.5-8.0 for storage.

#### Storage/Stability

Solutions at pH 7.5-8.0 can be stored at 2-8 °C for up to one week and up to 6 months frozen in aliquots at -20 °C. At pH 9-10, porcine somatotropin will deamidate (the deamidated form is fully active) and dimerize (dimer is totally inactive).

#### References

1. The Merck Index, 12th ed., Entry# 8864.
2. Martindale The Extra Pharmacopoeia, 30th ed., Reynolds, J. E. F., ed., The Pharmaceutical Press (London, England: 1993), p. 965.
3. Chen, H.C., et al., Purification and characteristics of porcine growth hormone. J. Biol. Chem., **245(13)**, 3402-3406 (1970).

CMH/RXR 2/03

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