

Recombinant Human TSH therapeutic protein(Thyrotropin alfa)

Cat. No. TSH-P036H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

The therapeutic protein is a recombinant form of thyroid stimulating hormone used in performing certain tests in patients who have or have had thyroid cancer. It is also used along with a radioactive agent to destroy remaining thyroid tissue in certain patients who have had their thyroid gland removed because of thyroid cancer. It is a heterodimeric glycoprotein comprised of two non-covalently linked subunits, an alpha subunit of 92 amino acid residues containing two N-linked glycosylation sites and a beta subunit of 112 residues containing one N-linked glycosylation site. The alpha subunit is nearly identical to that of human chorionic gonadotropin (hCG), luteinizing hormone (LH), and follicle-stimulating hormone (FSH). The alpha subunit is thought to be the effector region responsible for stimulation of adenylate cyclase (involved the generation of cAMP). The beta subunit (TSHB) is unique to TSH, and therefore determines its receptor specificity. The amino acid sequence of it is identical to that of human pituitary thyroid stimulating hormone.

Species

Human

Description

The pituitary glycoprotein hormone family includes follicle-stimulating hormone, luteinizing hormone, chorionic gonadotropin, and thyroid-stimulating hormone. All of these glycoproteins consist of an identical alpha subunit and a hormone-specific beta subunit. This gene encodes the beta subunit of follicle-stimulating hormone. In conjunction with luteinizing hormone, follicle-stimulating hormone induces egg and sperm production. Alternative splicing results in two transcript variants encoding the same protein. The expression product is the active ingredient of Thyrogen, Gonal-F, Metrodin HP and Puregon.

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Molecular Mass	22.7 kDa
AA Sequence	>Alpha chainAPDVQDCPECTLQENPFFSQPGAPILQCMGCCFSRAYPTPLRSKKTMLVQKNVTSESTCCVAKSYNRVTVMGGFKVENHTACHCSTCYHKS>Beta chainFCIPTEYTMHIERRECAAYCLTINTTICAGYCMTRDINGKLFLPKYALSQDVCTYRDFIYRTVEIPGCPLHVAPYFSYPVALSCKCGKCNTDYSDCIHEAIKNTNYCTKPQKSY
Endotoxin	< 1.0 EU per µg of the protein
Purity	>95%
Storage	Can be stored at +4 centigrade short term (1-2weeks). For long term storage, aliquot and store at -20 centigrade or -70 centigrade. Avoidrepeated freezing and thawing cycles.
Alias	TSH; Recombinant Human Thyroid Stimulating Hormone; Recombinant thyrotropin alfa; rhTSH; rTSH; Thyrotropin alfa

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