9051 Mira Mesa Blvd, #910094
San Diego, CA 92191
Tel: 760-390-3989

TSH Protein

Thyroid Stimulating Hormone Human Recombinant
HRM0120

Product Overview

Name	TSH Protein
Description	
Thyroid Stimulating Hormone Human Recombinant	
Accession (Primary)	P01225
Synonyms	
Glycoprotein hormones alpha chain, Anterior pituitary glycoprotein hormones common subunit alpha, Follitropin alpha chain, Follicle-stimulating hormone alpha chain, FSH-alpha, Lutropin alpha chain, Luteinizing hormone alpha chain, LSH-alpha, Thyrotropin alpha chain, Thyroid-stimulating hormone alpha chain, TSH-alpha, Choriogonadotropin alpha chain, Chorionic gonadotrophin alpha subunit, CG-alpha, Thyrotropin subunit beta, Thyroid-stimulating hormone subunit beta, TSH-beta, TSH-B, Thyrotropin beta chain, Thyrotropin alfa.	
Source	
HEK 293 cells.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
Lyophilized from a concentrated 50mM ammonium bicarbonate.	
Stability	
Lyophilized Recombinant TSH although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Recombinant TSH should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	
Greater than 95.0% as determined by SDS-PAGE.	
Biological Activity	
The protein is biologically active using Siemens Centaur CP is standardized against WHO 3rd IS 81/565.	
Solubility	
It is recommended to reconstitute the lyophilized recombinant TSH in sterile 10 mM Sodium Phosphate, 150 mM Sodium Chloride, 1 mg/ml BSA, 0.1% Sodium Azide (optional), pH 7.4.	

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Background

Thyroid-stimulating hormone (TSH), also known as thyrotropin, is a glycoprotein hormone produced by the anterior pituitary gland. Its primary function is to regulate thyroid gland activity by stimulating the synthesis and secretion of thyroid hormones, thyroxine (T4) and triiodothyronine (T3). Recombinant human TSH (rhTSH) has emerged as a valuable tool in clinical practice, particularly in the management of thyroid disorders and in diagnostic procedures involving the thyroid gland. This paper aims to provide an overview of research on rhTSH, including its mechanism of action, activity, and therapeutic applications. The mechanism of action of rhTSH involves binding to the TSH receptor (TSHR) on the surface of thyroid follicular cells. This interaction activates intracellular signalling pathways, including cyclic adenosine monophosphate (cAMP) production and protein kinase A (PKA) activation. These pathways stimulate various cellular processes within thyroid follicular cells, such as iodine uptake, thyroid hormone synthesis, and secretion.

Precautions

TSH Protein is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (P01225)

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