9051 Mira Mesa Blvd, #910094
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TSH Human

Thyroid Stimulating Hormone Human
HRM0119

Product Overview

Name	TSH Human

Description

Thyroid Stimulating Hormone Human

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.

Introduction

Thyroid-stimulating hormone (also known as TSH or thyrotropin) is a hormone synthesized and secreted by thyrotrope cells in the anterior pituitary gland which regulates the endocrine function of the thyroid gland. TSH stimulates the thyroid gland to secrete the hormones thyroxine (T4) and triiodothyronine (T3). TSH production is controlled by a Thyrotropin Releasing Hormone, (TRH), which is manufactured in the hypothalamus and transported to the Anterior Pituitary gland, where it increases TSH production and release. Somatostatin is also produced by the hypothalamus, and has an opposite effect on the pituitary production of TSH, decreasing or inhibiting its release. The level of Thyroid hormones (T3 and T4) in the blood have an additional effect on the pituitary release of TSH, When the levels of T3 and T4 are low, the production of TSH is increased, and conversely, when levels of T3 and T4 are high, then TSH production is decreased. This effect creates a regulatory negative feedback loop. TSH is a glycoprotein and consists of two subunits, the alpha and the beta subunit. The a (alpha) subunit is identical to that of human chorionic gonadotropin (HCG), luteinising hormone (LH), follicle-stimulating hormone (FSH). The b (beta) subunit is unique to TSH, and therefore determines its function.

Source

Human pituitary glands

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

Lyophilized from a concentrated solution containing 50mM ammonium bicarbonate.

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Stability

Lyophilized TSH although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution 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% as determined by SDS-PAGE.

Biological Activity

11.72 IU/mg vial by Centaur CP. Siemens Centaur CP is standardized against WHO 3rd IRP 81/565.

Solubility

It is recommended to reconstitute the lyophilized TSH in sterile 18MΩ-cm H 2 O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Precautions

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