

## TSH Human

**Description:**Thyroid Stimulating Hormone Human produced in Human pituitary glands is an important indicator of thyroid function. Used to monitor thyroid associated diseases.

Catalog #:HOPS-008

**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 a

For research use only.

**Source:**Human pituitary glands

**Physical Appearance:**Sterile Filtered White lyophilized (freeze-dried) powder.

**Purity:**Greater than 95% as determined by SDS-PAGE.

### Formulation:

Lyophilized from a concentrated (1.31mg/1ml) solution containing 50mM ammonium bicarbonate.

### 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.

### Usage:

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

### Solubility:

It is recommended to reconstitute the lyophilized TSH in sterile 18M-cm H<sub>2</sub>O not less than 100

### 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 (T<sub>4</sub>) and triiodothyronine (T<sub>3</sub>). 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 (T<sub>3</sub> and T<sub>4</sub>) in the blood have an additional effect on the pituitary release of TSH, When the levels of T<sub>3</sub> and T<sub>4</sub> are low, the production of TSH is increased, and conversely, when levels of T<sub>3</sub> and T<sub>4</sub> 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.

### Biological Activity:

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

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