

# Active Native Human Thyroid Stimulating Hormone

**Cat. No.** TSH-108H    **Lot. No.** (See product label)

## SPECIFICATION

**Product Overview**      Human Thyroid Stimulating Hormone was purified from Human pituitary glands.

**Species**                      Human

**Source**                        Human Pituitary Gland

**Description**

Thyroid-stimulating hormone 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 .

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

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|                     | bicarbonate.   |
| <b>Bio-activity</b> | 9.3 IU/mg vial by Centaur CP. Siemens Centaur CP is standardized against WHO 3rd IRP 81/565.   |
| <b>Purity</b>       | ≥95% as determined by SDS PAGE   |
| <b>Storage</b>      | Lyophilized 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. |

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