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

TSH Canine

Thyroid Stimulating Hormone Canine
HRM0118

Product Overview

Name	TSH Canine
Description	
Thyroid Stimulating Hormone Canine	
Accession (Primary)	P01223
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	
Mammalian cell line.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
TSH was lyophilized from 150mM NaCl, 10mM K-phosphate, pH 7.4, 0.1% CHAPS and 100mM D-mannitol.	
Stability	
It is recommended to reconstitute the lyophilized TSH in 0.01M HCl (pH 2.0) not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.	
Purity	
Greater than 90% as determined by SDS-PAGE.	
Solubility	
It is recommended to reconstitute the lyophilized TSH in 10mM sodium phosphate, 150mM NaCl & 1 mg/ml BSA, pH 7.4.	
Background	
Thyroid Stimulating Hormone (TSH), a pivotal glycoprotein hormone secreted by the anterior pituitary gland, stands as the master regulator of thyroid function. Its intricate control over thyroid hormone synthesis and secretion makes it a linchpin in the delicate balance of the endocrine system. The study of TSH, particularly in the form of TSH	

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Recombinant Protein, has not only provided profound insights into thyroid physiology but has also revolutionized diagnostic methods, therapeutic interventions, and our understanding of various thyroid disorders. This research delves into the multifaceted realm of TSH, exploring its structural intricacies, physiological roles, and its far-reaching implications in both clinical and research settings. Structural Insights into TSH: TSH, a heterodimeric protein consisting of alpha and beta subunits, possesses a distinctive structure crucial for its biological activity. The beta subunit contains a unique hinge region, allowing flexibility in its interactions with the thyroid follicular cells. Understanding these structural nuances is fundamental for comprehending TSH's receptor binding, signaling cascades, and its intricate feedback mechanisms governing thyroid hormone production. Physiological Significance in Thyroid Regulation: TSH orchestrates thyroid function by binding to its specific receptors on the thyroid gland, stimulating iodine uptake, thyroid hormone synthesis, and secretion. This process is indispensable for maintaining the body's metabolism, energy balance, and overall growth and development. TSH's meticulous control over thyroid activity ensures the precise release of thyroid hormones, essential for numerous physiological processes and maintaining homeostasis. Diagnostic and Therapeutic Applications: In the realm of diagnostics, TSH assays utilizing TSH Recombinant Protein have revolutionized the detection and monitoring of thyroid disorders, particularly hypothyroidism and hyperthyroidism. By measuring TSH levels, clinicians can assess thyroid function, enabling early diagnosis and personalized treatment strategies. Moreover, recombinant TSH finds applications in diagnostic imaging, enhancing the accuracy of radioiodine scans for thyroid cancer diagnosis and treatment. Innovative Therapies and Future Prospects: Recombinant TSH has paved the way for innovative therapeutic interventions, particularly in the management of thyroid cancer. Thyroid remnant ablation, a crucial step in thyroid cancer treatment, involves the administration of radioiodine following recombinant TSH stimulation, maximizing the therapeutic efficacy while minimizing the radiation exposure to surrounding tissues. Ongoing research explores the potential of TSH receptor agonists and antagonists, offering new avenues for targeted therapies in thyroid-related disorders. TSH Recombinant Protein, with its profound influence on thyroid function and its applications in diagnostics and therapeutics, stands at the forefront of endocrine research. Its intricate roles in thyroid regulation, metabolism, and growth highlight its significance in human physiology. As our understanding of TSH deepens, it not only aids in the development of innovative treatments but also opens new avenues for exploring the complex interplay between hormones, receptors, and physiological responses. This research not only illuminates the vital role of TSH but also underscores its potential in shaping the future of thyroid-related healthcare.

Precautions

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

Target Information: (P01223)

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Background

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