

Thyrostimulin Recombinant Protein | GPHA2 recombinant protein

Recombinant Human Thyrostimulin Alpha

CATALOG #
AAA38353

HOST
E Coli

PRODUCT SYNONYMS

Thyrostimulin; Recombinant Human Thyrostimulin Alpha; GPHA2 Human; Thyrostimulin Alpha Human Recombinant; GPA2; GPHA2; ZSIG51; Glycoprotein hormone alpha-2; MGC126572; GPHA2 recombinant protein

PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	Greater than 95.0% as determined by(a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Form/Format	GPHA2 filtered (0.4 um) and lyophilized from 0.5 mg/ml in 0.05M Acetate buffer pH 4. Filtered White lyophilized (freeze-dried) powder.
Sequence	MRGSHHH HHHGMASQEAVIPGCH LHPFNVTVRS DRQGTCCQGS VQAQCVGHCE SSAFPSRYSV LVASGYRHNI TSVQCCTIS GLKKVKVQLQ CVGSRREELE IFTARACQCD MCRLSRY
Sequence Length	129
Solubility	It is recommended to add 0.1M Acetate buffer pH4 to prepare a working stock solution of ~ 0.5 mg/ml and let the lyophilized pellet dissolve completely. For conversion into higher pH value, we recommend intensive dilution by relevant buffer to a concentration of 10ug/ml. In higher concentrations the solubility of this protein is limited. Product is not sterile! Please filter the product by an appropriate sterile filter before using it in the cell culture.
Preparation and Storage	Lyophilized Thyrostimulin although stable at room temperature for 3 weeks, should be stored desiccated below -18 degree C. Upon reconstitution GPHA2 should be stored at 4 degree C between 2-7 days and for future use below -18 degree C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Please prevent freeze-thaw cycles.

ADDITIONAL INFORMATION

Related Product Information for GPHA2 recombinant protein

Description: GPHA2 Human Recombinant produced in E Coli is a single, non-glycosylated, polypeptide chain containing 120 amino acids and having a total molecular mass of 13.28 kDa. The Thyrostimulin contains His tag which consists of 14 additional amino acids. The amino acid sequence of the recombinant human Thyrostimulin beta subunit is 100% homologous to the amino acid sequence of the human Thyrostimulin beta subunit without signal sequence. (N-terminal 24AA). Thyrostimulin is purified by proprietary chromatographic techniques.

Introduction: Human thyrostimulin ranks among the glycoprotein hormone family. These hormones consist of two subunits, the common alpha- and specific beta-subunits, which associate noncovalently to form a heterodimer. The alpha-subunit combines with four distinct beta-subunits giving rise to four biologically active hormones in human: FSH, LH, TSH, and CG. FSH, LH, and TSH, mainly expressed in the anterior pituitary, are essential for coordinated endocrine regulation in the hypothalamus- pituitary axis and show to activate specific G protein coupled receptors in the thyroid (TSH receptor) and gonads (LH and FSH receptors), respectively. The heterodimeric glycoprotein hormones have only been identified in vertebrates and are highly conserved in organisms from primitive rayfin fish (Chondrostei) to human in both primary sequences and functional characteristics. Corticotroph-derived glycoprotein hormone (CGH), also referred to as thyrostimulin, is a noncovalent heterodimer of glycoprotein hormone alpha 2 (GPHA2) and glycoprotein hormone beta 5 (GPHB5). Recombinant A2/B5 heterodimeric glycoproteins activates human TSH receptors, but not LH and FSH receptors, and shows high affinity to TSH receptors in a radioligand receptor assay. The heterodimer also stimulates cAMP production and thymidine incorporation by cultured thyroid cells and increases serum thyroxine levels in TSH-suppressed rats in vivo. This new heterodimeric glycoprotein hormone was named as thyrostimulin based on its thyroid-stimulating activity. The expression of thyrostimulin in the anterior pituitary known to express TSH receptors suggested a paracrine mechanism.

Product Categories/Family for GPHA2 recombinant protein	Hormones; Hormones; Thyrostimulin
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NCBI AND UNIPROT INFORMATION

NCBI GI #	18640742
NCBI GeneID	170589
NCBI Accession #	NP_570125.1
NCBI GenBank Nucleotide #	NM_130769.3
UniProt Accession #	Q96T91; Q52LE2
Molecular Weight	14,163 Da
NCBI Official Full Name	glycoprotein hormone alpha-2
NCBI Official Synonym Full Names	glycoprotein hormone alpha 2
NCBI Official Symbol	GPHA2
NCBI Official Synonym Symbols	A2; GPA2; ZSIG51
NCBI Protein Information	glycoprotein hormone alpha-2; cysteine knot protein; glycoprotein alpha 2; putative secreted protein Zsig51; thyrostimulin subunit alpha
UniProt Protein Name	Glycoprotein hormone alpha-2
UniProt Gene Name	GPHA2
UniProt Synonym Gene Names	GPA2; ZSIG51
UniProt Entry Name	GPHA2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.