

Human GPHA2 / Glycoprotein hormone alpha 2 Protein (His Tag)

Catalog Number: 13894-H08H



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Biological Solution Specialist

General Information

Gene Name Synonym:

A2; GPA2; ZSIG51; GPA2; zsig51

Protein Construction:

A DNA sequence encoding the human GPHA2 (Q96T91) (Met1-Tyr129) was expressed with a polyhistidine tag at the C-terminus.

Source: Human

Expression Host: Human Cells

QC Testing

Purity: > 90 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Gln 24

Molecular Mass:

The recombinant human GPHA2 consists of 117 amino acids and predicts a molecular mass of 13.1 KDa. It migrates as an approximately 23 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4.

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

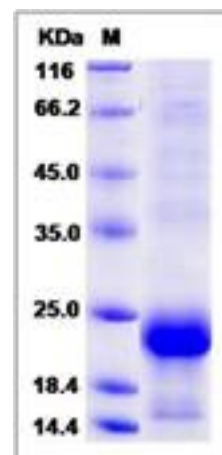
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

GPHA2 is a member of the glycoprotein hormones subunit alpha family. Glycoprotein 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. GPHA2 and glycoprotein hormone beta 5 (GPHB5) can form a noncovalent heterodimer. GPHA2 can be detected in a variety of tissues. 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.

References

- 1.Hsu SY. et al., 2002, Science. 295 (5555): 671-4.
- 2.Suzuki C. et al., 2007, Regul Pept. 142 (1-2): 60-7.
- 3.Breous E. et al., 2006, Mol Cell Endocrinol. 245 (1-2): 169-80.

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