

Human Glutaminyl cyclase / QPCT Protein (His Tag)

Catalog Number: 13752-H07B



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

GCT; QC; sQC; 5730422A13Rik

Protein Construction:

A DNA sequence encoding the human QPCT (Q16769-1) (Ala33-Leu361) was fused with a polyhistidine tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 95 % 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: His

Molecular Mass:

The recombinant human QPCT consists of 345 amino acids and has a calculated molecular mass of 39.7 kDa. The recombinant protein migrates as an approximately 38 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly

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:

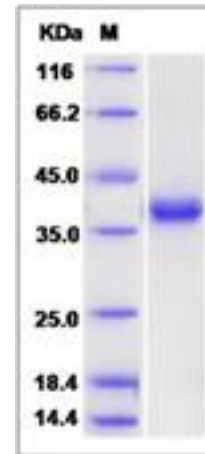
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

Glutaminyl cyclase, also known as QPCT, can promote the N-terminal cyclization reaction of N-terminal pyroglutamate(pGlu). The pGlu formation from its glutaminyl precursor is required in the maturation of numerous bioactive peptides, while the aberrant formation of pGlu may be related to several pathological processes, such as osteoporosis and amyloidotic diseases. Glutaminyl cyclase's structure reveals an alpha/beta scaffold akin to that of two-zinc exopeptidases but with several insertions and deletions, particularly in the active-site region. Glutaminyl cyclase's amino acid sequence of this enzyme is 86% identical to that of bovine glutaminyl cyclase. It is responsible for the presence of pyroglutamyl residues in many neuroendocrine peptides.

References

1. Busby WH, *et al.* (1987) An enzyme(s) that converts glutaminyl-peptides into pyroglutamyl-peptides. Presence in pituitary, brain, adrenal medulla, and lymphocytes. *J Biol Chem.* 262(18):8532-6.
2. Bateman RC, *et al.* (2001) Evidence for essential histidines in human pituitary glutaminyl cyclase. *Biochemistry.* 40(37):11246-50.
3. Schilling S, *et al.* (2002) Heterologous expression and characterization of human glutaminyl cyclase: evidence for a disulfide bond with importance for catalytic activity. *Biochemistry.* 41 (35):10849-57.

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Fax :+86-10-51029969 • Tel:+86-400-890-9989 • <http://www.sinobiological.com>