

Human PDE3A Protein (His & GST Tag)

Catalog Number: 11908-H20B1



Sino Biological Inc.

Biological Solution Specialist

General Information

Gene Name Synonym:

CGI-PDE; CGI-PDE-A; CGI-PDEA; A930022O17Rik; C87899

Protein Construction:

A DNA sequence encoding the human PDE3A (Q14432) (Lys669-Gln1141) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect 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: Met

Molecular Mass:

The recombinant human PDE3A /GST chimera consists of 710 amino acids and has a calculated molecular mass of 81.7 kDa. The recombinant protein migrates as an approximately 93 kDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile 20mM Tris, 500mM NaCl, pH 7.4, 10% gly, 3mM DTT

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:

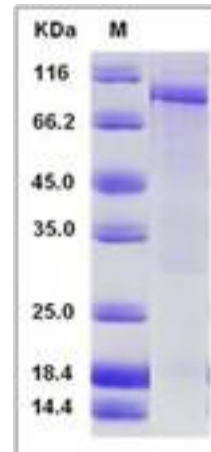
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

PDE3A belongs to the phosphodiesterase family. Phosphodiesterases (PDEs) are a family of related phosphohydrolyases that selectively catalyze the hydrolysis of 3' cyclic phosphate bonds in adenosine and/or guanine 3',5' cyclic monophosphate (cAMP and/or cGMP). They regulate the cellular levels, localization and duration of action of these second messengers by controlling the rate of their degradation. PDEs are expressed ubiquitously, with each subtype having a specific tissue distribution. These enzymes are involved in many signal transduction pathways and their functions include vascular smooth muscle proliferation and contraction, cardiac contractility, platelet aggregation, hormone secretion, immune cell activation, and they are involved in learning and memory. PDE3A has high affinity for both cAMP and cGMP and shows competitive inhibition of the cAMP hydrolytic activity by cGMP. It plays a critical role in regulating intracellular levels of cAMP and cGMP.

References

1. Penmatsa H, *et al.* (2010) Compartmentalized cyclic adenosine 3',5'-monophosphate at the plasma membrane clusters PDE3A and cystic fibrosis transmembrane conductance regulator into microdomains. *Mol Biol Cell.* 21(6):1097-110.
2. Zhang W, *et al.* (2007) Thrombin regulates intracellular cyclic AMP concentration in human platelets through phosphorylation/activation of phosphodiesterase 3A. *Blood.* 110(5):1475-82.
3. Degerman E, *et al.* (1997) Structure, localization, and regulation of cGMP-inhibited phosphodiesterase (PDE3). *J Biol Chem.* 272(11):6823-6.

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