

PDE1C Protein, Human, Recombinant (His & GST)

General Information

Synonyms:	hCam-3;phosphodiesterase 1C, calmodulin-dependent 70kDa;cam-PDE1C;Hcam3
Protein Construction:	A DNA sequence encoding the human PDE1C (Q8TAE4) (Met1-Glu634) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	Q8TAE4
Molecular Weight:	100 kDa (predicted); 97 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 85 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ μ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μ m filter, containing 20 mM Tris, 500 mM NaCl, pH 7.4, 10% gly, 3 mM DTT. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

PDE1C belongs to the cyclic nucleotide phosphodiesterase family, PDE1 subfamily. 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. PDE1C has a high affinity for both cAMP and cGMP. It is expressed in several tissues, including brain and heart. As a cyclic nucleotide phosphodiesterase, PDE1C has a dual-specificity for the second messengers cAMP and cGMP.

Reference

Strausberg RL, et al. (2003) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc Natl Acad Sci.* 99(26):16899-903.

Dolci S, et al. (2006) Subcellular localization and regulation of type-1C and type-5 phosphodiesterases. *Biochem Biophys Res Commun.* 341(3):837-46.

Vandeput F, et al. (2007) Cyclic nucleotide phosphodiesterase PDE1C1 in human cardiac myocytes. *Biochemistry. J Biol Chem.* 282(45):32749-57.

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