

PRODUCT INFORMATION



PDE9A2 (human, recombinant)

Item No. 32039

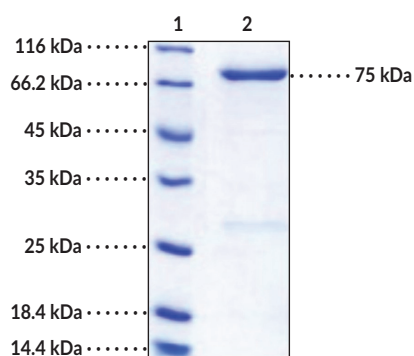
Overview and Properties

Synonym: High Affinity cGMP-specific 3',5'-cyclic Phosphodiesterase 9A
Source: Recombinant human N-terminal His-GST-tagged PDE9A2 expressed in insect cells
Amino Acids: 1-533 (full length)
Uniprot No.: O76083-2
Molecular Weight: 89.5 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥90% estimated by SDS-PAGE
Supplied in: Lyophilized from sterile 20 mM Tris, pH 7.4, with 500 mM sodium chloride, 5 mM GSH, and 10% glycerol

Endotoxin Testing: <1.0 EU/μg, determined by the LAL endotoxin assay

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: PDE9A2

SDS-PAGE Analysis of PDE9A2 . This protein has a calculated molecular weight of 89.5 kDa. It has an apparent molecular weight of approximately 75 kDa by SDS-PAGE under reducing conditions.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Phosphodiesterase 9A (PDE9A) is a high-affinity cGMP-specific cyclic nucleotide phosphodiesterase.¹ Alternative splicing in the 5' region of *PDE9A* mRNA results in a variety of PDE9A isoforms, including PDE9A2, whereas the 3' region encoding the catalytic PDE domain does not vary between isoforms.^{2,3} *PDE9A2* mRNA is expressed in colon, prostate, spleen, peripheral blood leukocytes, small intestine, thymus, testis, and ovary.² PDE9A2 localizes to membrane ruffles, the perinuclear region, and other membrane regions when transiently overexpressed in HeLa and COS-1 cells.³ *PDE9A* expression is elevated in reticulocytes and neutrophils isolated from patients with sickle cell disease compared with healthy individuals.⁴ Cayman's PDE9A2 (human, recombinant) protein consists of 770 amino acids and has a calculated molecular weight of 89.5 kDa. By SDS-PAGE, under reducing conditions, the apparent molecular mass of the protein is approximately 75 kDa.

References

1. Fisher, D.A., Smith, J.F., Pillar, J.S., *et al.* Isolation and characterization of PDE9A, a novel human cGMP-specific phosphodiesterase. *J. Biol. Chem.* **273**(25), 15559-15564 (1998).
2. Rentero, C., Monfort, A., and Puigdomènech, P. Identification and distribution of different mRNA variants produced by differential splicing in the human phosphodiesterase 9A gene. *Biochem. Biophys. Res. Commun.* **301**(3), 686-692 (2003).
3. Dorner-Ciossek, C., Kroker, K.S., and Rosenbrock, H. Role of PDE9 in cognition. *Phosphodiesterases: CNS Functions and Diseases*. Zhang, H.-T., Xu, Y., and O'Donnell, J.M., editors, 1st edition, *Springer* (2017).
4. Almeida, C.B., Traina, F., Lanaro, C., *et al.* High expression of the cGMP-specific phosphodiesterase, PDE9A, in sickle cell disease (SCD) and the effects of its inhibition in erythroid cells and SCD neutrophils. *Br. J. Haematol.* **142**(5), 836-844 (2008).

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