PRODUCT INFORMATION

PDE1B1 (human, recombinant)

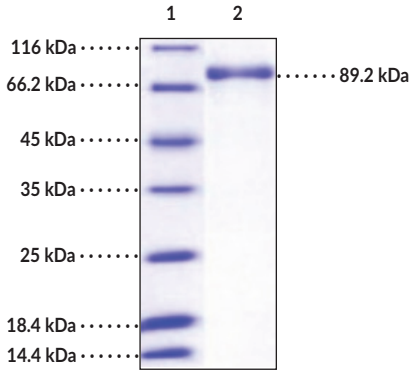
Item No. 32040

Overview and Properties

Synonyms:	Calcium/Calmodulin-dependent 3',5'-Cyclic Nucleotide Phosphodiesterase 1B, Cam-PDE 1B, Phosphodiesterase 1B1
Source:	Recombinant human N-terminal His-GST-tagged PDE1B1 expressed in insect cells
Amino Acids:	1-536 (full length)
Uniprot No.:	Q01064-1
Molecular Weight:	89.2 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥94% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile 50 mM Tris, pH 8.0, with 100 mM sodium chloride
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: PDE1B1

SDS-PAGE Analysis of PDE1B1.

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Description

Phosphodiesterase 1B (PDE1B) is a calcium/calmodulin-stimulated cyclic nucleotide phosphodiesterase that hydrolyzes both cAMP and cGMP.[1] Alternative splicing of *PDE1B* pre-mRNA results in the formation of various PDE1B isoforms, including PDE1B1.[2] PDE1B1 is comprised of an N-terminal calmodulin binding domain, a catalytic domain, and a C-terminal domain.[1] *PDE1B1* is expressed in the brain, with the highest levels observed in the caudate nucleus and putamen.[2] *PDE1B* knockout mice have decreased striatal serotonin levels and exhibit increased spontaneous locomotor activity in a novel environment, as well as increased methamphetamine-induced locomotor activity compared with wild-type mice.[3] Striatal expression of *PDE1B* is decreased in the R6/2 transgenic mouse model of Huntington's disease.[4] Cayman's PDE1B1 (human, recombinant) protein consists of 773 amino acids and has a calculated molecular weight of 89.2 kDa.

References

1. Yu, J., Wolda, S.L., Frazier, A.L.B., *et al.* Identification and characterisation of a human calmodulin-stimulated phosphodiesterase PDE1B1. *Cell Signal.* **9(7)**, 519-529 (1997).
2. Fidock, M., Miller, M., and Lanfear, J. Isolation and differential tissue distribution of two human cDNAs encoding PDE1 splice variants. *Cell Signal.* **14(1)**, 53-60 (2002).
3. Siuciak, J.A., McCarthy, S.A., Chapin, D.S., *et al.* Behavioral and neurochemical characterization of mice deficient in the phosphodiesterase-1B (PDE1B) enzyme. *Neuropharmacology* **53(1)**, 113-124 (2007).
4. Hebb, A.L.O., Robertson, H.A., and Denovan-Wright, E.M. Striatal phosphodiesterase mRNA and protein levels are reduced in Huntington's disease transgenic mice prior to the onset of motor symptoms. *Neuroscience* **123(4)**, 967-981 (2004).

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