

Product Information

PDE1A, active, His-tagged, human recombinant, expressed in Sf9 cells

Catalog Number **SRP5339**
Storage Temperature -70°C

Synonyms: HCAM1; HSPDE1A; MGC26303

Product Description

PDE1A is a member of the cyclic nucleotide phosphodiesterase family that is stimulated by Ca^{2+} -calmodulin. PDE1A is a cGMP-specific phosphodiesterase and hydrolyzes cGMP to 5'-GMP. Calmodulin is tightly bound to PDE1A in human spermatozoa and this results in permanent activation of PDE1A.¹ Inhibition of PDE1A function significantly attenuates vascular smooth muscle cell growth by decreasing proliferation via G_1 arrest and induces apoptosis.² In vascular smooth muscle cell, PDE1A is important in regulating growth and survival of these cells, and thus can contribute to the neointima formation in atherosclerosis and restenosis.

Recombinant full-length human PDE1A was expressed by baculovirus in Sf9 insect cells using an N-terminal His-tag. The gene accession number is NM_005019. It is supplied in 50 mM MOPS, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 0.25 mM DTT, and 25% glycerol.

Molecular mass: ~64 kDa

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at -70°C is recommended. After opening, aliquot into smaller quantities and store at -70°C . Avoid repeated handling and multiple freeze/thaw cycles.

Figure 1.
SDS-PAGE Gel of Typical Lot:
 $\geq 70\%$ (SDS-PAGE, densitometry)

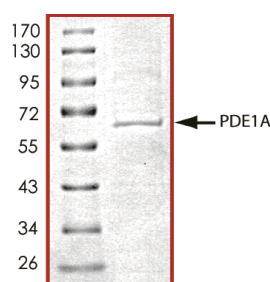
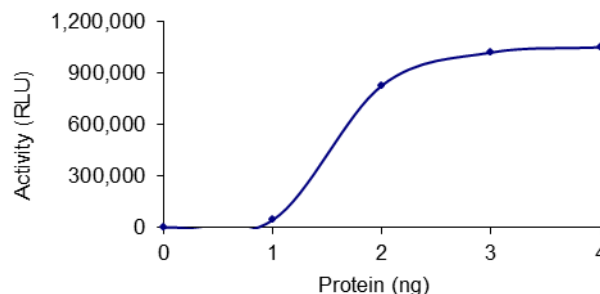


Figure 2.
Specific Activity of Typical Lot:
10,413–14,134 nmole/min/mg



Phosphodiesterase activity was determined with a luminescent assay procedure.

References

1. Lefièvre, L. et al., Presence of cyclic nucleotide phosphodiesterases PDE1A, existing as a stable complex with calmodulin, and PDE3A in human spermatozoa. *Biol. Reprod.*, **67**(2), 423-30 (2002).
2. Nagel, D.J. et al., Role of nuclear Ca^{2+} /calmodulin-stimulated phosphodiesterase 1A in vascular smooth muscle cell growth and survival. *Circ. Res.*, **98**(6), 777-84 (2006).

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