

## PDE9A Protein, Human (sf9, His-GST)

Cat. No.:	HY-P75962
Synonyms:	High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A; PDE9A
Species:	Human
Source:	Sf9 insect cells
Accession:	O76083-2 (M1-A533)
Gene ID:	5152
Molecular Weight:	Approximately 75 kDa

### PROPERTIES

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 $\mu$ m filtered solution of 20 mM Tris, 500 mM NaCl, 5 mM GSH, pH 7.4, 10% Glycerol. Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween 80 are added as protectants before lyophilization.
Endotoxin Level	<1 EU/ $\mu$ g, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu$ g/mL in ddH <sub>2</sub> O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

### DESCRIPTION

#### Background

PDE9A, a phosphodiesterase enzyme, exhibits remarkable specificity by hydrolyzing the second messenger cwith the highest affinity and selectivity compared to other members of the cyclic nucleotide phosphodiesterase family. Its distinctive role is evident in regulating natriuretic-peptide-dependent csignaling in the heart, where it serves as a key regulator of cardiac hypertrophy in myocytes and muscle. Notably, PDE9A does not influence nitric oxide-dependent csignaling in the heart, highlighting its specificity for natriuretic-peptide-dependent pathways. Further investigations are warranted to determine whether its role in hydrolyzing natriuretic-peptide-dependent cis exclusive to the heart or represents a broader feature of the protein. Additionally, in the brain, PDE9A contributes to cognitive functions such as learning and long-term memory, emphasizing its diverse physiological roles in different tissues.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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