Data Sheet (Cat.No.TMPY-01921)

TargetMol

PDE9A Protein, Human, Recombinant (His)

General Information

Synonyms:	phosphodiesterase 9A;HSPDE9A2
Protein Construction:	A DNA sequence encoding the human PDE9A (O76083-2) C-terminal segment (Pro 181-Lys 506) was expressed, with a polyhistide tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	E. coli
Accession:	O76083-2
Molecular Weight:	40 kDa (predicted); 37 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:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. 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

High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A, also known as PDE9A, is a member of the cyclic nucleotide phosphodiesterase family and PDE9 subfamily. PDE9A is expressed in all tissues examined (testis, brain, small intestine, skeletal muscle, heart, lung, thymus, spleen, placenta, kidney, liver, pancreas, ovary and prostate) except blood. Highest levels of PDE9A is in brain, heart, kidney, spleen, prostate and colon. Isoform PDE9A2 is found in prostate. PDE9A mRNA is widely distributed throughout the rat and mouse brain, with the

highest expression observed in cerebellar Purkinje cells. PDE9A is the only cGMP-specific PDE with significant expression in the forebrain, and as such is likely to play an important role in NO-cGMP signaling. PDE9A is highly conserved between species and is widely distributed throughout the rodent brain. PDE9A is probably involved in maintenance of low cGMP levels in cells and might play an important role in a variety of brain functions involving cGMP-mediated signal transduction. PDE9A hydrolyzes the second messenger cGMP, which is a key regulator of many important physiological processes. PDE9A represents a novel drug target worthy of further study.

Reference

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van Staveren,WC. et al., 2002, J Neurocytol. 31 (8-9):729-41.
Almeida,CB. et al., 2008, Br J Haematol. 142 (5):836-44.
Kruse,L.S. et al., 2009, Brain Res. 1281 :25-34.

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