Recombinant mouse Egl nine homolog 3 protein

Catalog No: #AP72267

Package Size: #AP72267-1 20ug #AP72267-2 100ug #AP72267-3 1mg

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Description

Product Name	Recombinant mouse Egl nine homolog 3 protein
Brief Description	Recombinant Protein
Host Species	E.coli
Purification	Greater than 90% as determined by SDS-PAGE.
Immunogen Description	Expression Region:2-239aaSequence Info:Full Length
Other Names	Hypoxia-inducible factor prolyl hydroxylase 3 ;HIF-PH3 ;HIF-prolyl hydroxylase 3 ;HPH-3;Prolyl hydroxylase domain-containing protein 3 ;PHD3SM-20
Accession No.	Q91UZ4
Uniprot	Q91UZ4
GeneID	112407;
Calculated MW	31.2 kDa
Tag Info	N-terminal 6xHis-tagged
Target Sequence	PLGHIMRLDLEKIALEYIVPCLHEVGFCYLDNFLGEVVGDCVLERVKQLHYNGALRDGQLAGPRAGVSKRHLR GDQITWIGGNEEGCEAINFLLSLIDRLVLYCGSRLGKYYVKERSKAMVACYPGNGTGYVRHVDNPNGDGRCIT CIYYLNKNWDAKLHGGVLRIFPEGKSFVADVEPIFDRLLFFWSDRRNPHEVQPSYATRYAMTVWYFDAEERAE AKKKFRNLTRKTESALAKD
Formulation	Tris-based buffer50% glycerol
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C,-80°C. The shelf life of lyophilized form is 12 months at -20°C,-80°C.Notes:Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Background

Plays a crucial role in DNA damage response (DDR) by hydroxylating TELO2, promoting its interaction with ATR which is required for activation of the ATR,CHK1,p53 pathway . Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N-terminal, NODD, and C-terminal, CODD) of HIF1A. Also hydroxylates HIF2A. Has a preference for the CODD site for both HIF1A and HIF2A. Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site. Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex. Under hypoxic conditions, the hydroxylation reaction is attenuated allowing HIFs to escape degradation resulting in their translocation to the nucleus, heterodimerization with HIF1B, and increased expression of hypoxy-inducible genes. ELGN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis. Under normoxia, hydroxylates and regulates the stability of ADRB2. Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex. In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity. Also essential for hypoxic regulation of neutrophilic inflammation. Target proteins are preferencially recognized via a LXXLAP motif.1 Publication

References

Mammalian EGLN genes have distinct patterns of mRNA expression and regulation.Lieb M.E., Menzies K., Moschella M.C., Ni R., Taubman M.B.Biochem. Cell Biol. 80:421-426(2002)Research Topic:Others

Note: This product is for in vitro research use only