

EGLN3 Antibody (C-term) Blocking Peptide
Synthetic peptide
Catalog # BP14221b**Specification**

EGLN3 Antibody (C-term) Blocking Peptide - Product InformationPrimary Accession [Q9H6Z9](#)**EGLN3 Antibody (C-term) Blocking Peptide - Additional Information****Gene ID** 112399**Other Names**

Egl nine homolog 3, HPH-1, Hypoxia-inducible factor prolyl hydroxylase 3, HIF-PH3, HIF-prolyl hydroxylase 3, HPH-3, Prolyl hydroxylase domain-containing protein 3, PHD3, EGLN3

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

EGLN3 Antibody (C-term) Blocking Peptide - Protein Information**Name** EGLN3 {ECO:0000303|PubMed:16098468, ECO:0000312|HGNC:HGNC:14661}**Function**

Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as PKM, TELO2, ATF4 and HIF1A (PubMed: 19584355, PubMed: 20978507, PubMed: 21483450, PubMed: 21575608, PubMed: 21620138, PubMed: 22797300). Target proteins are preferentially recognized via a LXXLAP motif. Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4- hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins (PubMed: 11595184, PubMed: 12181324). Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N- terminal, NODD, and C-terminal, CODD) of HIF1A (PubMed: 11595184, PubMed: 12181324). Also hydroxylates HIF2A (PubMed: 11595184).

target="_blank">11595184, PubMed:12181324). Has a preference for the CDD site for both HIF1A and HIF2A (PubMed:11595184, PubMed:12181324). Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CDD site (PubMed:11595184, PubMed:12181324). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:11595184, PubMed:12181324). 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 hypoxia-inducible genes (PubMed:11595184, PubMed:12181324). EGLN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis (PubMed:21483450, PubMed:21620138). Under normoxia, hydroxylates and regulates the stability of ADRB2 (PubMed:19584355). Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex (PubMed:20849813). In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity (PubMed:16098468). Also essential for hypoxic regulation of neutrophilic inflammation (PubMed:21317538). Plays a crucial role in DNA damage response (DDR) by hydroxylating TEL2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway (PubMed:22797300). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (Probable).

Cellular Location

Nucleus. Cytoplasm Note=Colocalizes with WDR83 in the cytoplasm
{ECO:0000250|UniProtKB:Q62630}

Tissue Location

Widely expressed at low levels. Expressed at higher levels in adult heart (cardiac myocytes, aortic endothelial cells and coronary artery smooth muscle), lung and placenta, and in fetal spleen, heart and skeletal muscle. Also expressed in pancreas. Localized to pancreatic acini and islet cells.

EGLN3 Antibody (C-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

EGLN3 Antibody (C-term) Blocking Peptide - Images

EGLN3 Antibody (C-term) Blocking Peptide - Background

EGLN3 catalyzes the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. Hydroxylates HIF-1 alpha at 'Pro-564', and HIF-2 alpha. Functions as a cellular oxygen sensor and, under normoxic conditions, targets HIF through the hydroxylation for proteasomal degradation via the von Hippel-Lindau ubiquitination complex. May play a role in cell growth regulation in muscle cells and in apoptosis in neuronal tissue. Promotes cell death through a

caspase-dependent mechanism (By similarity).

EGLN3 Antibody (C-term) Blocking Peptide - References

Sato, M., et al. Exp. Cell Res. 316(17):2871-2882(2010)Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :Xue, J., et al. Gastroenterology 138(2):606-615(2010)Henze, A.T., et al. Cancer Res. 70(1):357-366(2010)Hatzimichael, E., et al. Eur. J. Haematol. 84(1):47-51(2010)