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EGLN2 Antibody (N-term) Blocking Peptide

Synthetic peptide
Catalog # BP16800a

Specification

EGLN2 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession Q96KS0

EGLN2 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 112398

Other Names
Egl nine homolog 2, Estrogen-induced tag 6, HPH-3, Hypoxia-inducible factor prolyl hydroxylase 1, HIF-PH1, HIF-prolyl hydroxylase 1, HPH-1, Prolyl hydroxylase domain-containing protein 1, PHD1, EGLN2, EIT6

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.

EGLN2 Antibody (N-term) Blocking Peptide - Protein Information

Name EGLN2 (HGNC:14660)

Function
Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as ATF4, IKBKB, CEP192 and HIF1A (PubMed:11595184, PubMed:12039559, PubMed:15925519, PubMed:16509823, PubMed:17114296, PubMed:23932902). Target proteins are preferentially recognized via a LXXLAP motif (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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:12039559, PubMed:<a href="http://www.uniprot.org/citations/12181324"

target="_blank">12181324, PubMed:15925519, PubMed:19339211). 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:12039559, PubMed:12181324, PubMed:15925519). Also hydroxylates HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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 (PubMed:11595184, PubMed:12039559, PubMed:15925519). EGLN2 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle (PubMed:11595184, PubMed:12039559, PubMed:15925519). Also regulates susceptibility to normoxic oxidative neuronal death (PubMed:11595184, PubMed:12039559, PubMed:15925519). Links oxygen sensing to cell cycle and primary cilia formation by hydroxylating the critical centrosome component CEP192 which promotes its ubiquitination and subsequent proteasomal degradation (PubMed:23932902). Hydroxylates IKBKB, mediating NF-kappa-B activation in hypoxic conditions (PubMed:17114296). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (By similarity).

Cellular Location
Nucleus

Tissue Location
Expressed in adult and fetal heart, brain, liver, lung, skeletal muscle, and kidney. Also expressed in testis and placenta. Highest levels in adult brain, placenta, lung, kidney, and testis. Expressed in hormone responsive tissues, including normal and cancerous mammary, ovarian and prostate epithelium

EGLN2 Antibody (N-term) Blocking Peptide - Protocols

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

- Blocking Peptides

EGLN2 Antibody (N-term) Blocking Peptide - Images

EGLN2 Antibody (N-term) Blocking Peptide - Background

The hypoxia inducible factor (HIF) is a transcriptionalcomplex which is involved in oxygen homeostasis. At normal oxygenlevels, the alpha subunit of HIF is targeted for degration byprolyl hydroxylation. This gene encodes an enzyme responsible forthis posttranslational modification. Multiple alternatively splicedvariants, encoding the same protein, have been identified.

EGLN2 Antibody (N-term) Blocking Peptide - References

Winning, S., et al. J. Immunol. 185(3):1786-1793(2010)Nat. Genet. 42(5):441-447(2010)Steinhoff, A., et al. Biochem. Biophys. Res. Commun. 387(4):705-711(2009)Yasumoto, K., et al. Biochim. Biophys. Acta 1793(5):792-797(2009)Liu, X.B., et al. J. Cell. Biochem. 106(5):903-911(2009)