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EGLN1 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP18620b

Specification

EGLN1 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession Q9GZT9

EGLN1 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 54583

Other Names
Egl nine homolog 1, Hypoxia-inducible factor prolyl hydroxylase 2, HIF-PH2, HIF-prolyl hydroxylase 2, HPH-2, Prolyl hydroxylase domain-containing protein 2, PHD2, SM-20, EGLN1 (HGNC:1232), C1orf12

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.

EGLN1 Antibody (C-term) Blocking Peptide - Protein Information

Name EGLN1 (HGNC:1232)

Synonyms C1orf12

Function
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 HIF1B. 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. EGLN1 is the most important isozyme under normoxia and, through regulating the stability of HIF1, involved in various hypoxia-influenced processes such as angiogenesis in retinal and cardiac functionality. Target proteins are preferentially recognized via a LXXLAP motif.

Cellular Location

Cytoplasm. Nucleus. Note=Mainly cytoplasmic. Shuttles between the nucleus and cytoplasm (PubMed:19631610). Nuclear export requires functional XPO1.

Tissue Location
According to PubMed:11056053, widely expressed with highest levels in skeletal muscle and heart, moderate levels in pancreas, brain (dopaminergic neurons of adult and fetal substantia nigra) and kidney, and lower levels in lung and liver. According to PubMed:12351678 widely expressed with highest levels in brain, kidney and adrenal gland. Expressed in cardiac myocytes, aortic endothelial cells and coronary artery smooth muscle. According to PubMed:12788921; expressed in adult and fetal heart, brain, liver, lung, skeletal muscle and kidney. Also expressed in placenta. Highest levels in adult heart, brain, lung and liver and fetal brain, heart spleen and skeletal muscle.

EGLN1 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

EGLN1 Antibody (C-term) Blocking Peptide - Images

EGLN1 Antibody (C-term) Blocking Peptide - Background

The protein encoded by this gene catalyzes thepost-translational formation of 4-hydroxyproline inhypoxia-inducible factor (HIF) alpha proteins. HIF is atranscriptional complex that plays a central role in mammalianoxygen homeostasis. This protein functions as a cellular oxygensensor, and under normal oxygen concentration, modification byprolyl hydroxylation is a key regulatory event that targets HIFsubunits for proteasomal destruction via the von Hippel-Lindauubiquitylation complex. Mutations in this gene are associated witherythrocytosis familial type 3 (ECYT3).

EGLN1 Antibody (C-term) Blocking Peptide - References

Aggarwal, S., et al. Proc. Natl. Acad. Sci. U.S.A. 107(44):18961-18966(2010)Vogel, S., et al. J. Biol. Chem. 285(44):33756-33763(2010)Simonson, T.S., et al. Science 329(5987):72-75(2010)Thoms, B.L., et al. J. Biol. Chem. 285(27):20472-20480(2010)Spinella, F., et al. PLoS ONE 5 (6), E11241 (2010) :