10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

EGLN1 Antibody
Rabbit Polyclonal Antibody
Catalog # ABV11144

Specification

EGLN1 Antibody - Product Information

Application	**WB**
Primary Accession	Q9GZT9
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Calculated MW	**46021**

EGLN1 Antibody - Additional Information

Gene ID 54583

Positive Control	**Western Blot: Various cell lysates**
Application & Usage	**Western blot: 1:500 – 1:2000, IHC: 1:50 – 1:200.**

Other Names
EGLN1, DKFZp 61F179, ECYT3, HIFPH2, HPH2, PHD2, SM20, SM20, ZMYND6.

Target/Specificity
EGLN1

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
100 µg of antibody in 100 µl PBS containing 0.02% sodium azide, 50% glycerol, pH 7.3

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
EGLN1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

EGLN1 Antibody - 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.

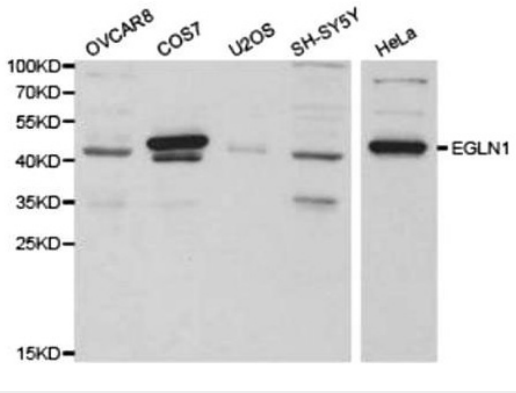
EGLN1 Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

EGLN1 Antibody - Images

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999



WB of various cell extract with EGLN1 pAb.

EGLN1 Antibody - Background

PHD1 (Egln2), PHD2 (Egln1), and PHD3 (Egln3) are members of the Egln family of proline hydroxylases. They function as oxygen sensors that catalyze the hydroxylation of HIF on prolines 564 and 402, initiating the first step of HIF degradation through the VHL/ubiquitin pathway. PHD1 is highly expressed in a wide array of tissues whereas PHD2 and PHD3 are expressed mainly in heart and skeletal muscle. The mRNA levels of PHD are upregulated by HIF through the hypoxia response element under low oxygen conditions. These three enzymes also exhibit different peptide specificity target proteins, PHD1 and PHD2 can hydroxylate both proline 402 and proline 564, but PHD3 can only hydroxylate proline 564. In addition to HIF, PHD enzymes have also has been shown to catalyze the hydroxylation of RNA polymerase subunits and myogenin.