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

PHD2 / prolyl hydroxylase Antibody

Rabbit mAb
Catalog # AP91431

Product Information

Application	WB, IP
Primary Accession	Q9GZT9
Reactivity	Human
Clonality	Monoclonal
Other Names	EGLN1; C1orf12; ECYT3; HIFPH2; HPH2; PHD2; SM-20; SM20; ZMYND6;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	46021

Additional Information

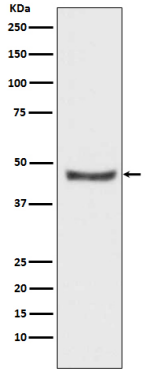
Dilution	WB 1:500~1:2000 IP 1:50
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human PHD2 / prolyl hydroxylase
Description	Catalyzes the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. Hydroxylates HIF-1 alpha at 'Pro-402' and '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.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

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.

Images



Western blot analysis of PHD2 / prolyl hydroxylase expression in SH-SY5Y cell lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.