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PHD2 Rabbit pAb

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Catalog # AP58090

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9GZT9
Reactivity	Human, Mouse
Predicted	Rat, Pig, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	46021
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PHD2
Epitope Specificity	42-140/426
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm. Nucleus.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	PHD2 protein catalyzes the posttranslational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. In the presence of oxygen, PHD2 converts specific prolyl residues in HIF alpha to hydroxyproline, leading to HIF alpha proteasomal degradation via the von Hippel-Lindau ubiquitylation complex. Low oxygen levels, sensed at the cellular level, cause the HIF conversion to be reduced so that HIF levels are stable. This results in increased angiogenesis as HIF1 alpha regulates the expression of many angiogenesis-related genes.

Additional Information

Gene ID	54583
Other Names	Egl nine homolog 1, 1.14.11.29, 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
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

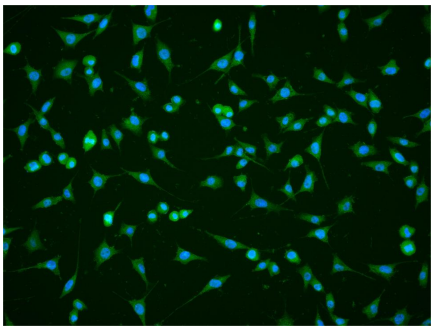
Protein Information

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.

Background

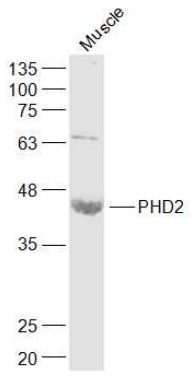
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Images

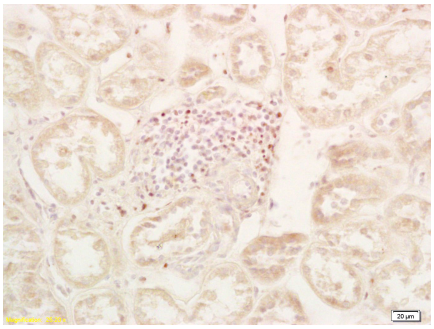


A431 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (PHD2) polyclonal Antibody, Unconjugated (AP58090) 1:25, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.

Sample:
Muscle (Mouse) Lysate at 40 ug
Primary: Anti-PHD2 (AP58090) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution



Predicted band size: 47 kD
Observed band size: 43 kD



Tissue/cell: Human kidney; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-PHD2 Polyclonal Antibody, Unconjugated(AP58090) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

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