

产品名称: PHD3 (11Y3) Rabbit Monoclonal Antibody
产品货号: AMRe16061



产品概述 (Summary)

产品名称 (Production Name)	PHD3 (11Y3) Rabbit Monoclonal Antibody
描述 (Description)	Recombinant rabbit monoclonal antibody
宿主 (Host)	Rabbit
应用 (Application)	WB,IHC,ICC/IF,IP
种属反应性 (Reactivity)	Human,Mouse,Rat

产品性能 (Performance)

偶联物 (Conjugation)	Unconjugated
修饰 (Modification)	Unmodified
同种型 (Isotype)	IgG
克隆 (Clonality)	Monoclonal
形式 (Form)	Liquid
存放说明 (Storage)	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.
储存溶液 (Buffer)	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
纯化方式 (Purification)	Affinity purification

免疫原信息 (Immunogen)

基因名 (Gene Name)	EGLN3
别名 (Alternative Names)	Egl nine homolog 3; EGLN3; Factor responsive smooth muscle protein; HIF Prolyl Hydroxylase 3; HIFP4H3; HIFPH3; P4H3; PHD3; SM20;
基因 ID (Gene ID)	112399.0
蛋白 ID (SwissProt ID)	Q9H6Z9.

产品应用 (Application)

稀释比 (Dilution Ratio)	WB 1:500-1:2000,IHC 1:50-1:100,ICC/IF 1:20-1:50,IP 1:20-1:50
蛋白分子量 (Molecular Weight)	27kDa

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研究背景 (Background)

Catalyzes the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins. Hydroxylates HIF-1 alpha at '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. Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as PKM, TEL02, ATF4 and HIF1A (PubMed: [19584355](http://www.uniprot.org/citations/19584355), PubMed: [21620138](http://www.uniprot.org/citations/21620138), PubMed: [21483450](http://www.uniprot.org/citations/21483450), PubMed: [22797300](http://www.uniprot.org/citations/22797300), PubMed: [20978507](http://www.uniprot.org/citations/20978507), PubMed: [21575608](http://www.uniprot.org/citations/21575608)). Target proteins are preferentially recognized via a LXXLAP motif. Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4- hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). 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](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). Also hydroxylates HIF2A (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). 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 hypoxia- inducible genes (PubMed: [11595184](http://www.uniprot.org/citations/11595184), PubMed: [12181324](http://www.uniprot.org/citations/12181324)). EGLN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis (PubMed: [21620138](http://www.uniprot.org/citations/21620138), PubMed: [21483450](http://www.uniprot.org/citations/21483450)). Under normoxia, hydroxylates and regulates the stability of ADRB2 (PubMed: [19584355](http://www.uniprot.org/citations/19584355))

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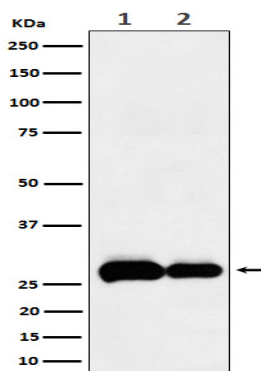


target="_blank">19584355). Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex (PubMed:20849813). In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity (PubMed:16098468). Also essential for hypoxic regulation of neutrophilic inflammation (PubMed:21317538). Plays a crucial role in DNA damage response (DDR) by hydroxylating TEL2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway (PubMed:22797300). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (Probable).

研究领域 (Research Area)

Cardiovascular

图片 (Image Data)



Western blot analysis of PHD3 expression in (1) A549 cell lysate; (2) NIH/3T3 cell lysate.

注意事项 (Note)

For research use only .