PHD3 Rabbit pAb

CatalogNo: YN6103

Key Features

Host Species	Reactivity	Applications
• Rabbit	• Human,Mouse,Rat	• WB

MW	Isotype
• 26kD (Calculated)	• IgG

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-2000

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	Synthesized peptide derived from human PHD3
Specificity	This antibody detects endogenous levels of PHD3 at Human, Mouse,Rat

Target Information

Gene name	EGLN3

Protein Name Egl nine homolog 3 (HPH-1) (Hypoxia-inducible factor prolyl hydroxylase 3) (HIF-PH3) (HIF-prolyl hydroxylase 3) (HPH-3) (Prolyl hydroxylase domain-containing protein 3) (PHD3)

Organism	Gene ID	UniProt ID
Human	112399;	Q9H6Z9;
Mouse	112407;	Q91UZ4;
Rat	54702;	Q62630;

Cellular Localization Nucleus . Cytoplasm . Colocalizes with WDR83 in the cytoplasm. .

Tissue specificity Widely expressed at low levels. Expressed at higher levels in adult heart (cardiac myocytes, aortic endothelial cells and coronary artery smooth muscle), lung and placenta, and in fetal spleen, heart and skeletal muscle. Also expressed in pancreas. Localized to pancreatic acini and islet cells.

Function Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as PKM, TELO2, ATF4 and HIF1A . 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 . 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 HIF2A . Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site . 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 . ELGN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis . Under normoxia, hydroxylates and regulates the stability of ADRB2 . Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex . In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity . Also essential for hypoxic regulation of neutrophilic inflammation . Plays a crucial role in DNA damage response (DDR) by hydroxylating TELO2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway . Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (Probable).

Validation Data

Contact information

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Please scan the QR code to access additional product information:
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