PHD3 RABBIT MAB

Cat.#: N262709

Product Name: Anti-PHD3 Rabbit Monoclonal Antibody

Synonyms: PHD3; HIFPH3; HIFP4H3

UNIPROT ID: Q9H6Z9

Background: 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. EGLN3 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. Target proteins are preferentially recognized via a LXXLAP motif.

Immunogen: Recombinant protein of human PHD3

Applications: WB,IHC-P,IP

Recommended Dilutions: WB: 1/500-1/1000 IHC: 1/50-1/100 IP: 1/20

Host Species: Rabbit

Clonality: Rabbit Monoclonal

Clone ID: R04-3K9

MW: Calculated MW: 27 kDa; Observed MW: 27 kDa

Isotype: IgG

Purification: Affinity Purified

Species Reactivity: Human,Mouse,Rat

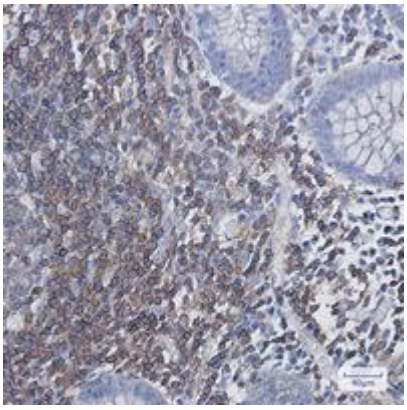
Conjugation: Unconjugated

Modification: Unmodified

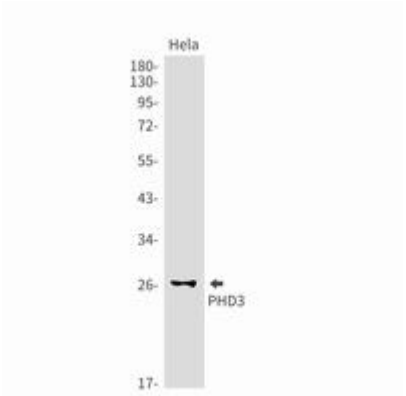
Constituents: PBS (without Mg2+ and Ca2+), pH 7.3 containing 50% glycerol, 0.5% BSA and 0.02% sodium azide

Research Areas: Hypoxia Signal Transductionyyyyy Hypoxia-Inhibition

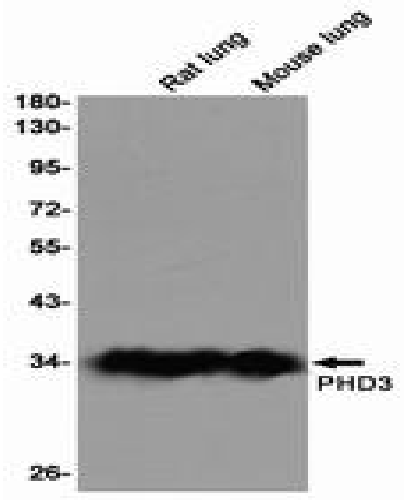
Storage & Shipping: Store at -20°C. Avoid repeated freezing and thawing



Immunohistochemistry analysis of paraffin-embedded Human colon cancer using PHD3 antibody. High- pressure and temperature Sodium Citrate pH 6.0 was used for antigen retrieval.



Western blot analysis of PHD3 in Hela lysates using PHD3 antibody.



Western blot analysis of PHD3 in rat lung and mouse lung lysates using PHD3 antibody.