

**DESCRIPTION**

<b>Species Reactivity</b>	Human/Mouse
<b>Specificity</b>	Detects human EGLN1/PHD2 in direct ELISAs. Detects human and mouse EGLN1/PHD2 in Western blots.
<b>Source</b>	Recombinant Monoclonal Rabbit IgG Clone # 2445D
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human EGLN1/PHD2 Ala2-Phe426 Accession # Q9QZT9
<b>Conjugate</b>	Alexa Fluor 750 Excitation Wavelength: 749 nm Emission Wavelength: 775 nm
<b>Formulation</b>	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

**APPLICATIONS**

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

<b>Western Blot</b>	Optimal dilution of this antibody should be experimentally determined.
<b>Immunohistochemistry</b>	Optimal dilution of this antibody should be experimentally determined.

**PREPARATION AND STORAGE**

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

**BACKGROUND**

PHD2 (Prolyl Hydroxylase Domain-containing protein 2; also HPH2, EGLN1 and HIF-PH2) is a 45-47 kDa dioxygenase member of the PH family of enzymes. It is ubiquitously expressed, and serves to regulate the availability of the oxygen-sensitive HIF transcription factor. Active HIF1 $\alpha$  is a heterodimer of  $\alpha$ - and  $\beta$ -subunits and when intact, promotes VEGF and EPO production. The  $\beta$ -subunit is constitutively expressed, while  $\alpha$ -subunit levels are regulated by intracellular oxygen concentration. At normoxic levels, the  $\alpha$ -subunit is hydroxylated on Pro by one of three PHDs, inducing its ubiquitination/degradation. The hydroxylation event requires oxygen, and thus PH activity (particularly PHD2) is a measure of a cell's oxygen concentration. Human PHD2 is 426 amino acids (aa) in length. It contains an NES (aa 6-20), a Zn-finger region (aa 21-58), and a catalytic domain (aa 291-392). There are five nitrosylated cysteines plus one acetylated alanine. Two isoform variants are known, one that shows a deletion of aa 338-359, and another that contains a 17 aa substitution for aa 58-175. Over aa 157-426, human PHD2 shares 93% aa sequence identity with mouse PHD2.

**PRODUCT SPECIFIC NOTICES**

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