

DESCRIPTION

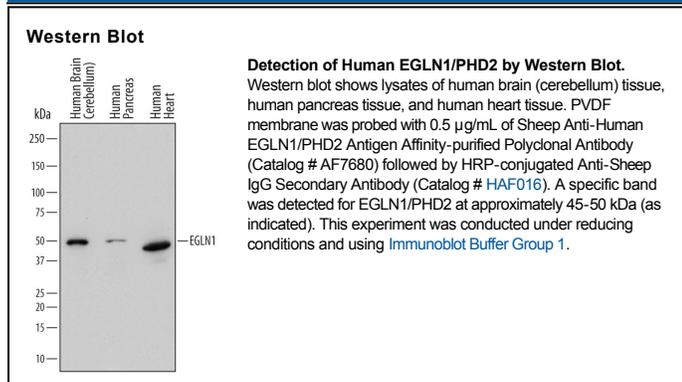
Species Reactivity	Human
Specificity	Detects human EGLN1/PHD2 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) PHD1 and rhPHD3 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human EGLN1/PHD2 Gln157-Phe426 Accession # Q9GZT9
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

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.

	Recommended Concentration	Sample
Western Blot	0.5 µg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.2 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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 HIF1α is a heterodimer of α- and β-subunits and when intact, promotes VEGF and EPO production. The β-subunit is constitutively expressed, while α-subunit levels are regulated by intracellular oxygen concentration. At normoxic levels, the α-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.