

# HIF PHD2 (N-16): sc-34922

## BACKGROUND

Prolyl hydroxylase domain proteins HIF PHD1, HIF PHD2 and HIF PHD3 (known as PHD1, PHD2 and PHD3 in rodents, respectively) can hydroxylate HIF- $\alpha$  subunits. Hypoxia-inducible factor (HIF) is a transcriptional regulator important in several aspects of oxygen homeostasis. The prolyl hydroxylases catalyze the posttranslational formation of 4-hydroxyproline in HIF- $\alpha$  proteins. HIF PHD1, which is widely expressed, with highest levels of expression in testis, functions as a cellular oxygen sensor and is important in cell growth regulation. HIF PHD1 can localize to the nucleus or the cytoplasm and is also detected in hormone responsive tissues, such as normal and cancerous mammary, ovarian and prostate epithelium. HIF PHD1 is encoded by EGLN2, which maps to chromosome 19q13.3. HIF PHD2 is regarded as the main cellular oxygen sensor, as RNA interference against HIF PHD2, but not HIF PHD1 or HIF PHD3, is enough to stabilize HIF-1 $\alpha$  in normoxia. HIF PHD2, a direct HIF target gene, is expressed mainly in skeletal muscle, heart, kidney and brain. HIF PHD3 may play a role in the regulation of cell growth in muscle cells and in apoptosis in neuronal tissue. HIF PHD3 is widely expressed, although the highest levels can be detected in placenta and heart.

## REFERENCES

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2. Aprelikova, O., Chandramouli, G.V., Wood, M., Vasselli, J.R., Riss, J., Maranchie, J.K., Linehan, W.M. and Barrett, J.C. 2004. Regulation of HIF prolyl hydroxylases by hypoxia-inducible factors. *J. Cell. Biochem.* 92: 491-501.
3. Marxsen, J.H., Stengel, P., Doege, K., Heikkinen, P., Jokilehto, T., Wagner, T., Jelkmann, W., Jaakkola, P. and Metzen, E. 2004. Hypoxia-inducible factor-1 (HIF-1) promotes its degradation by induction of HIF- $\alpha$ -prolyl-4-hydroxylases. *Biochem. J.* 381: 761-767.
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## CHROMOSOMAL LOCATION

Genetic locus: EGLN1 (human) mapping to 1q42.2; EglN1 (mouse) mapping to 8 E2.

## SOURCE

HIF PHD2 (N-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of HIF PHD2 of human origin.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34922 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

HIF PHD2 (N-16) is recommended for detection of HIF PHD2 of human and, to a lesser extent, mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HIF PHD2 (N-16) is also recommended for detection of HIF PHD2 in additional species, including bovine.

Suitable for use as control antibody for HIF PHD2 siRNA (h): sc-45537, HIF PHD2 siRNA (m): sc-45538, HIF PHD2 shRNA Plasmid (h): sc-45537-SH, HIF PHD2 shRNA Plasmid (m): sc-45538-SH, HIF PHD2 shRNA (h) Lentiviral Particles: sc-45537-V and HIF PHD2 shRNA (m) Lentiviral Particles: sc-45538-V.

Molecular Weight of HIF PHD2: 46 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **HIF PHD2 (H-8): sc-271835**, our highly recommended monoclonal alternative to HIF PHD2 (N-16).