

**Goat Anti-EGLN3 Antibody**  
Peptide-affinity purified goat antibody  
Catalog # AF1355a

## Specification

---

### Goat Anti-EGLN3 Antibody - Product Information

Application	WB
Primary Accession	<a href="#">O9H6Z9</a>
Other Accession	<a href="#">NP_071356</a> , <a href="#">112399</a> , <a href="#">112407 (mouse)</a> , <a href="#">54702 (rat)</a>
Reactivity	Human
Predicted	Mouse, Rat, Dog
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	27261

### Goat Anti-EGLN3 Antibody - Additional Information

**Gene ID** 112399

#### Other Names

Egl nine homolog 3, 1.14.11.29, HPH-1, Hypoxia-inducible factor prolyl hydroxylase 3, HIF-PH3, HIF-prolyl hydroxylase 3, HPH-3, Prolyl hydroxylase domain-containing protein 3, PHD3, EGLN3

#### Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

#### Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

#### Precautions

Goat Anti-EGLN3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Goat Anti-EGLN3 Antibody - Protein Information

**Name** EGLN3 {ECO:0000303|PubMed:16098468, ECO:0000312|HGNC:HGNC:14661}

#### Function

Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as PKM, TELO2, ATF4 and HIF1A (PubMed: [19584355](http://www.uniprot.org/citations/19584355), PubMed: [20978507](http://www.uniprot.org/citations/20978507), PubMed: [21483450](http://www.uniprot.org/citations/21483450))

target="\_blank">21483450</a>, PubMed:<a href="http://www.uniprot.org/citations/21575608" target="\_blank">21575608</a>, PubMed:<a href="http://www.uniprot.org/citations/21620138" target="\_blank">21620138</a>, PubMed:<a href="http://www.uniprot.org/citations/22797300" target="\_blank">22797300</a>). 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 (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N- terminal, NODD, and C-terminal, CODD) of HIF1A (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). Also hydroxylates HIF2A (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). Hydroxylation on the NODD site by EGLN3 appears to require prior hydroxylation on the CODD site (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). 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 hypoxia-inducible genes (PubMed:<a href="http://www.uniprot.org/citations/11595184" target="\_blank">11595184</a>, PubMed:<a href="http://www.uniprot.org/citations/12181324" target="\_blank">12181324</a>). EGLN3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Also hydroxylates PKM in hypoxia, limiting glycolysis (PubMed:<a href="http://www.uniprot.org/citations/21483450" target="\_blank">21483450</a>, PubMed:<a href="http://www.uniprot.org/citations/21620138" target="\_blank">21620138</a>). Under normoxia, hydroxylates and regulates the stability of ADRB2 (PubMed:<a href="http://www.uniprot.org/citations/19584355" target="\_blank">19584355</a>). Regulator of cardiomyocyte and neuronal apoptosis. In cardiomyocytes, inhibits the anti-apoptotic effect of BCL2 by disrupting the BAX-BCL2 complex (PubMed:<a href="http://www.uniprot.org/citations/20849813" target="\_blank">20849813</a>). In neurons, has a NGF-induced proapoptotic effect, probably through regulating CASP3 activity (PubMed:<a href="http://www.uniprot.org/citations/16098468" target="\_blank">16098468</a>). Also essential for hypoxic regulation of neutrophilic inflammation (PubMed:<a href="http://www.uniprot.org/citations/21317538" target="\_blank">21317538</a>). Plays a crucial role in DNA damage response (DDR) by hydroxylating TEL2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway (PubMed:<a href="http://www.uniprot.org/citations/22797300" target="\_blank">22797300</a>). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (Probable).

### Cellular Location

Nucleus. Cytoplasm Note=Colocalizes with WDR83 in the cytoplasm {ECO:0000250|UniProtKB:Q62630}

### Tissue Location

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.

## Goat Anti-EGLN3 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Goat Anti-EGLN3 Antibody - Images



AF1355a (0.1 µg/ml) staining of Human Muscle lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

#### Goat Anti-EGLN3 Antibody - References

Personalized smoking cessation: interactions between nicotine dose, dependence and quit-success genotype score. Rose JE, et al. *Mol Med*, 2010 Jul-Aug. PMID 20379614.

Prolyl hydroxylases 2 and 3 act in gliomas as protective negative feedback regulators of hypoxia-inducible factors. Henze AT, et al. *Cancer Res*, 2010 Jan 1. PMID 20028863.

Prolyl hydroxylase-3 is down-regulated in colorectal cancer cells and inhibits IKKbeta independent of hydroxylase activity. Xue J, et al. *Gastroenterology*, 2010 Feb. PMID 19786027.

The prolyl-hydroxylase EGLN3 and not EGLN1 is inactivated by methylation in plasma cell neoplasia. Hatzimichael E, et al. *Eur J Haematol*, 2010 Jan 1. PMID 19737309.

BRCA1 tumours correlate with a HIF-1alpha phenotype and have a poor prognosis through modulation of hydroxylase enzyme profile expression. Yan M, et al. *Br J Cancer*, 2009 Oct 6. PMID 19724277.