10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

EGLN2 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP16800a

Product Information

Application	WB, E
Primary Accession	Q96KS0
Other Accession	NP_542770.2, NP_444274.1
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB36290
Calculated MW	43650
Antigen Region	96-123

Additional Information

Gene ID	112398
Other Names	Egl nine homolog 2, Estrogen-induced tag 6, HPH-3, Hypoxia-inducible factor prolyl hydroxylase 1, HIF-PH1, HIF-prolyl hydroxylase 1, HPH-1, Prolyl hydroxylase domain-containing protein 1, PHD1, EGLN2, EIT6
Target/Specificity	This EGLN2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 96-123 amino acids from the N-terminal region of human EGLN2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	EGLN2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	EGLN2 (HGNC:14660)
Function	Prolyl hydroxylase that mediates hydroxylation of proline residues in target proteins, such as ATF4, IKBKB, CEP192 and HIF1A (PubMed:11595184,

	PubMed:12039559, PubMed:15925519, PubMed:16509823, PubMed:17114296, PubMed:23932902). Target proteins are preferentially recognized via a LXXLAP motif (PubMed:11595184, PubMed:12039559, PubMed:15925519). Cellular oxygen sensor that catalyzes, under normoxic conditions, the post-translational formation of 4-hydroxyproline in hypoxia-inducible factor (HIF) alpha proteins (PubMed:11595184, PubMed:12039559, PubMed:12181324, PubMed:15925519, PubMed:19339211). Hydroxylates a specific proline found in each of the oxygen-dependent degradation (ODD) domains (N-terminal, NODD, and C-terminal, CODD) of HIF1A (PubMed:11595184, PubMed:12039559, PubMed:12181324, PubMed:15925519). Also hydroxylates HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Has a preference for the CODD site for both HIF1A and HIF2A (PubMed:11595184, PubMed:12039559, PubMed:15925519). Hydroxylated HIFs are then targeted for proteasomal degradation via the von Hippel-Lindau ubiquitination complex (PubMed:11595184, PubMed:12039559, PubMed:15925519). 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 (PubMed:11595184, PubMed:12039559, PubMed:15925519). EGLN2 is involved in regulating hypoxia tolerance and apoptosis in cardiac and skeletal muscle (PubMed:11595184, PubMed:12039559, PubMed:15925519). Also regulates susceptibility to normoxic oxidative neuronal death (PubMed:11595184, PubMed:12039559, PubMed:15925519). Links oxygen sensing to cell cycle and primary cilia formation by hydroxylating the critical centrosome component CEP192 which promotes its ubiquitination and subsequent proteasomal degradation (PubMed:23932902). Hydroxylates IKBKB, mediating NF-kappa-B activation in hypoxic conditions (PubMed:17114296). Also mediates hydroxylation of ATF4, leading to decreased protein stability of ATF4 (By similarity).
Cellular Location	Nucleus
Tissue Location	Expressed in adult and fetal heart, brain, liver, lung, skeletal muscle, and kidney. Also expressed in testis and placenta. Highest levels in adult brain, placenta, lung, kidney, and testis. Expressed in hormone responsive tissues, including normal and cancerous mammary, ovarian and prostate epithelium

Background

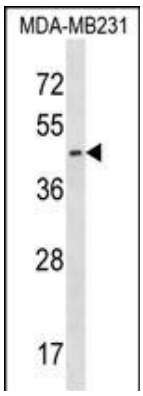
The hypoxia inducible factor (HIF) is a transcriptional complex which is involved in oxygen homeostasis. At normal oxygen levels, the alpha subunit of HIF is targeted for degration by prolyl hydroxylation. This gene encodes an enzyme responsible for this posttranslational modification. Multiple alternatively spliced variants, encoding the same protein, have been identified.

References

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Steinhoff, A., et al. Biochem. Biophys. Res. Commun. 387(4):705-711(2009)
Yasumoto, K., et al. Biochim. Biophys. Acta 1793(5):792-797(2009)
Liu, X.B., et al. J. Cell. Biochem. 106(5):903-911(2009)

Images

EGLN2 Antibody (N-term) (Cat. #AP16800a) western blot



analysis in MDA-MB231 cell line lysates (35ug/lane).This demonstrates the EGLN2 antibody detected the EGLN2 protein (arrow).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.