

## Product datasheet for **TA336303**

### PHD3 (EGLN3) Rabbit Polyclonal Antibody

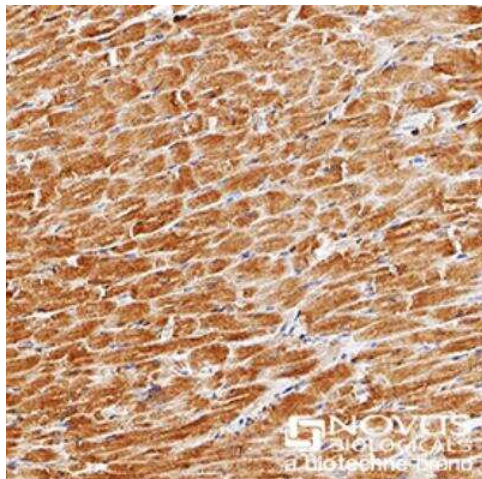
#### Product data:

Product Type:	Primary Antibodies
Applications:	ChIP, ICC/IF, IHC, Immunoblotting, IP, Simple Western, WB
Recommended Dilution:	Immunohistochemistry, Chromatin Immunoprecipitation (ChIP), Immunoprecipitation: 1:10-1:500, Chromatin Immunoprecipitation, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Simple Western: 1:1000, Western Blot: 1:500-1:2000, Immunoblotting
Reactivity:	Human, Mouse, Primate
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	A synthetic peptide made to the C-terminus of humanPHD3/HIF Prolyl Hydroxylase 3. [LocusLink ID 112399]
Formulation:	Tris-citrate/phosphate, pH 7, 0.1% Sodium azide. Store at 4C. Do not freeze.
Concentration:	lot specific
Purification:	Immunogen affinity purified
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	27 kDa
Gene Name:	egl-9 family hypoxia inducible factor 3
Database Link:	<a href="#">NP_071356</a> <a href="#">Entrez Gene 112407 Mouse</a> <a href="#">Entrez Gene 112399 Human</a> <a href="#">Q9H6Z9</a>

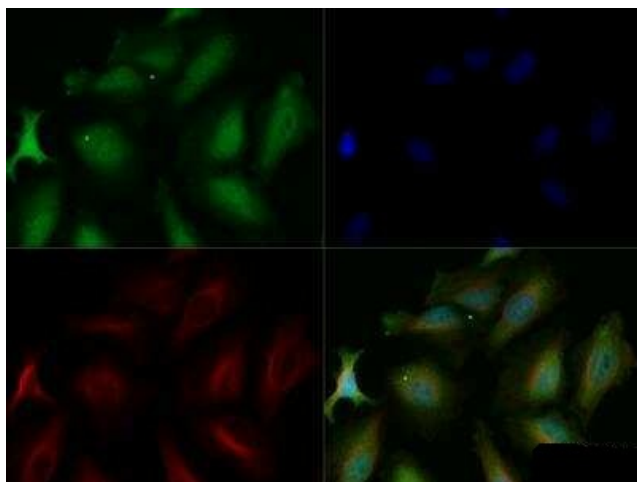


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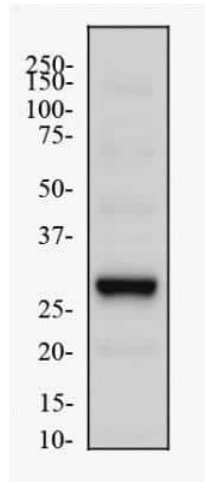
<b>Background:</b>	<p>HIF prolyl 4-hydroxylases (PHDs) are prolyl hydroxylase domain-containing enzymes (PHD1/ EglN2, PHD2/ EglN1, PHD3/ EglN3, and P4H-TM) which are known for their role in mediating physiological responses to hypoxic stress via modulation of HIF1alpha expression levels. HIF-alpha subunit is regulated by hydroxylation, both by a family of PHDs leading to ubiquitination and proteasomal degradation, and by transcriptional inactivation following asparaginyl hydroxylation by FIH (factor inhibiting HIF). When oxygen levels are normal, HIF Prolyl Hydroxylase 3 (HIF-PH3/ PHD3/ EglN3) hydroxylates a specific proline found in HIF1A's NODD/CODD domains and also hydroxylates HIF2A with preference for CODD site for HIF1A/HIF2A. Once hydroxylated, HIFs undergo proteasomal degradation via von Hippel-Lindau (VHL) ubiquitination complex. Upon hypoxic trigger, the hydroxylation reaction is tempered which let HIFs to escape degradation process leading to their nuclear translocation, heterodimerization with HIF1B, and increased expression of hypoxia-inducible genes. HIF-PH3 is the most important isozyme in limiting physiological activation of HIFs (particularly HIF2A) in hypoxia. Besides HIFs, in hypoxic conditions HIF-PH3 also hydroxylates PKM (thereby limiting glycolysis) and hydroxylates/regulates the stability of ADRB2. In cardiomyocytes, HIF-PH3 inhibits Bcl2's anti-apoptotic effect by disrupting the BAX-BCL2 complex, and in neurons, HIF-PH3 has a NGF-induced proapoptotic effect mediated via CASP3 activity regulation. HIF-PH3 also plays a crucial role in DNA damage response by hydroxylating TELO2, promoting its interaction with ATR which is required for activation of the ATR/CHK1/p53 pathway.</p>
<b>Synonyms:</b>	HIFP4H3; HIFPH3; PHD3
<b>Note:</b>	This PHD3/HIF Prolyl Hydroxylase 3 antibody is useful for Immunoprecipitation and Western blot, where a band is seen at ~27 kDa. This antibody has been tested against HeLa and MEF cell lysates. Immunoprecipitation was reported in PMID: 21575608. Chromatin Immunoprecipitation was reported in scientific literature.
<b>Protein Families:</b>	Druggable Genome
<b>Protein Pathways:</b>	Pathways in cancer, Renal cell carcinoma

**Product images:**

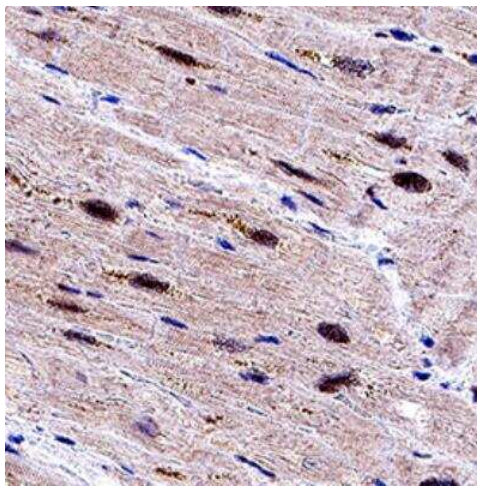
Immunohistochemistry-Paraffin: EGLN3/PHD3 Antibody TA336303 - LDL Receptor was detected in immersion fixed paraffin-embedded sections of human liver cancer using rabbit anti-human antibody (TA336303) at 1:3000 overnight at 4C. Tissue was stained using the VisuCyte anti-rabbit HRP polymer detection reagent (VC003) with DAB chromogen (brown) and counterstained with hematoxylin (blue).



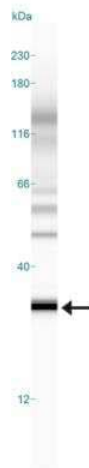
Immunocytochemistry/Immunofluorescence: EGLN3/PHD3 Antibody TA336303 - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.5% Triton X-100. The cells were incubated with anti-HIF Prolyl Hydroxylase 3 (TA336303) at 1:200 overnight at 4C and detected with an anti-rabbit Dylight 488 (Green) at 1:500. Alpha tubulin, DM1A (NB100-690) was used as a co-stain at 1:1000 and detected with an anti-mouse DyLight 550 (Red) at 1:500. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



Western Blot: EGLN3/PHD3 Antibody TA336303 - Whole cell protein from MEF cells was separated on a 12% gel by SDS-PAGE, transferred to PVDF membrane and blocked in 5% non-fat milk in TBST. The membrane was probed with 2 ug/mL anti-EGLN3/PHD3 in 1% milk, and detected with an anti-rabbit HRP secondary antibody using chemiluminescence.



Immunohistochemistry: EGLN3/PHD3 Antibody TA336303 - PHD3 was detected in immersion fixed paraffin-embedded sections of human heart using Rabbit Anti-Human EGLN3 polyclonal Antibody (TA336303) at 5 ug/mL for 1 hour at room temperature followed by incubation with the Anti-Rabbit IgG VisUCyte(TM) HRP Polymer Antibody (VC003). Tissue was stained using DAB (brown) and counterstained with hematoxylin (blue). Specific staining was localized to nuclei.



Simple Western: EGLN3/PHD3 Antibody TA336303 - Image shows a specific band for PHD3/HIF Prolyl Hydroxylase 3 in 0.5 mg/mL of Hypoxic HeLa cell lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.