

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human EGLN3/PHD3 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) EGLN1/PHD2 or rhEGLN2/PHD1 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 700210
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human EGLN3/PHD3 Pro2-Asp239 Accession # Q9H6Z9
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

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.

Immunocytochemistry Optimal dilution of this antibody should be experimentally determined.

PREPARATION AND STORAGE

Shipping The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

BACKGROUND

Egl nine homolog 3 (EGLN3), also known as PHD3, is a widely expressed 27 kDa enzyme that hydroxylates proline residues on target proteins including HIF-1α. HIF-1 is an α/β heterodimeric transcriptional activator that upregulates genes involved in mitigating the effects of hypoxia. Normally, and in the presence of abundant oxygen, the HIF-1 α-chain is hydroxylated by PHD family members, which results in its ubiquitylation and degradation. Under low oxygen tension, EGLN3 activity is decreased, the HIF-1α subunit is retained, and HIF-1 activates genes. EGLN3 also hydroxylates and promotes the degradation of the β-2-adrenergic receptor, promotes myogenic differentiation, promotes apoptosis via caspase activation, and blocks tumor angiogenesis. EGLN3 forms homomultimers and heteromultimers with other EGLN proteins, and this is enhanced during hypoxia. EGLN3 contains one iron 2-oxoglutarate (Fe2OG) dioxygenase domain (aa 278-376), an iron-binding site (Asp 137 and His196), and a 2-oxoglutarate-binding site (Arg205). Within aa 2-239, human EGLN3 shares 97% aa sequence identity with mouse and rat EGLN3.

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