Human EGLN3/PHD3 Antibody

Monoclonal Mouse IgG_{2B} Clone # 700210

Catalog Number: MAB6954

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	*E. coli*-derived recombinant human EGLN3/PHD3 Pro2-Asp239 Accession # Q9H6Z9
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

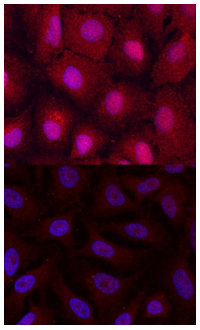
APPLICATIONS

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.*

	Recommended Concentration	Sample
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry



EGLN3/PHD3 in A549 Human Cell Line. EGLN3/PHD3 was detected in immersion fixed A549 human lung carcinoma cell line, untreated (lower panel) or treated (upper panel) with CoCl2, using Mouse Anti-Human EGLN3/PHD3 Monoclonal Antibody (Catalog # MAB6954) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to nuclei and cytoplasm. View our protocol for Fluorescent ICC Staining of Cells on Coverslips.

PREPARATION AND STORAGE

Reconstitution	Sterile PBS to a final concentration of 0.5 mg/mL.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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