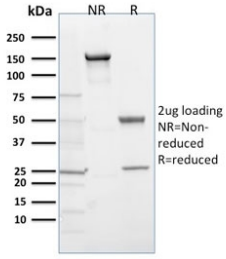
EGLN1 Antibody / PHD2 / Egl nine homolog 1 [clone 366G/76/3] (V8026)

Catalog No.	Formulation	Size
V8026-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V8026-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V8026SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	366G/76/3
Purity	Protein G affinity chromatography
UniProt	Q9GZT9
Localization	Cytoplasmic
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 1-2ug/ml
Limitations	This EGLN1 antibody is available for research use only.



SDS-PAGE analysis of purified, BSA-free EGLN1 antibody (clone 366G/76/3) as confirmation of integrity and purity.

Description

EGLN1 antibody targets Egl nine homolog 1, also known as prolyl hydroxylase domain protein 2 (PHD2), encoded by the EGLN1 gene. Egl nine homolog 1 is a cytoplasmic and nuclear oxygen-sensing enzyme that belongs to the family of 2-oxoglutarate-dependent dioxygenases. It functions as a primary regulator of cellular responses to oxygen availability by controlling the stability of hypoxia-inducible factor alpha subunits under normoxic conditions.

Functionally, Egl nine homolog 1 catalyzes proline hydroxylation on hypoxia-inducible factor alpha proteins, enabling their recognition by the von Hippel-Lindau ubiquitin ligase complex and subsequent proteasomal degradation. This process suppresses hypoxia-inducible factor signaling when oxygen levels are sufficient, maintaining transcriptional homeostasis. An EGLN1 antibody supports studies focused on hypoxia signaling, oxygen-dependent gene regulation, and metabolic adaptation.

EGLN1 is broadly expressed across tissues and cell types, reflecting its central role in oxygen sensing throughout mammalian physiology. Its activity is particularly relevant in tissues exposed to fluctuating oxygen tension, including kidney, lung, heart, and vascular-associated cells. Cellular localization and enzymatic activity of Egl nine homolog 1 are influenced by iron availability, metabolic intermediates, and redox state, allowing fine control of hypoxia-responsive pathways.

From a disease-relevance perspective, dysregulation of Egl nine homolog 1 has been implicated in cancer, ischemic injury, cardiovascular disease, and disorders of erythropoiesis. Altered EGLN1 activity can lead to inappropriate stabilization of hypoxia-inducible factors, promoting angiogenesis, metabolic reprogramming, and altered cell survival. Genetic variation in EGLN1 has also been associated with high-altitude adaptation, highlighting its role in systemic oxygen homeostasis.

At the molecular level, Egl nine homolog 1 contains conserved catalytic domains required for iron binding and 2-oxoglutarate utilization. Post-translational regulation and cellular context can influence its enzymatic activity and apparent behavior in biochemical assays without altering the primary amino acid sequence. The EGLN1 antibody clone 366G/76/3 supports research applications focused on hypoxia signaling and oxygen-sensing mechanisms, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the EGLN1 antibody should be determined by the researcher.

Immunogen

Amino acids 1-24 of human Egl nine homolog 1 protein were used as the immunogen for the EGLN1 antibody.

Storage

Store the EGLN1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

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