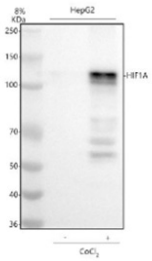
HIF1A Antibody / HIF-1 alpha [clone 31H88] (FY12702)

Catalog No.	Formulation	Size
FY12702	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA	100 ul

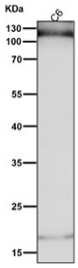
Recombinant RABBIT MONOCLONAL

Bulk quote request

Availability	2-3 weeks
Species Reactivity	Human, Mouse, Rat
Format	Liquid
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	31H88
Purity	Affinity-chromatography
Buffer	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
UniProt	Q16665
Applications	Western Blot : 1:500-1:2000 Immunocytochemistry/Immunofluorescence : 1:50-1:200
Limitations	This HIF1A antibody is available for research use only.



Western blot analysis of HIF-1-Alpha using anti-HIF1A antibody. Lane 1: human HepG2 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-HIF1A antibody at 1:500 overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:500 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. Predicted molecular weight ~110 kDa, commonly observed at 100-120 kDa.



Rat C6 cell lysate tested with the HIF1A antibody at 1:1000 dilution for 1 hour at room temperature. Predicted molecular weight ~110 kDa, commonly observed at 100-120 kDa.

Description

HIF1A antibody detects hypoxia inducible factor 1 alpha, encoded by the HIF1A gene. HIF-1 alpha is a transcription factor that regulates cellular responses to low oxygen. Under normoxia, HIF-1 alpha is hydroxylated by prolyl hydroxylases, ubiquitinated by the von Hippel Lindau E3 ligase complex, and degraded. Under hypoxia, degradation is inhibited, allowing HIF-1 alpha to accumulate, dimerize with HIF-1 beta, and activate target genes involved in angiogenesis, glycolysis, and survival.

HIF1A antibody is widely applied in cancer research, cardiovascular biology, and metabolism. In tumors, HIF-1 alpha promotes angiogenesis by inducing VEGF and other pro angiogenic factors, supporting tumor growth and metastasis. In ischemic heart disease and stroke, HIF-1 alpha regulates protective adaptations. In metabolism, HIF-1 alpha shifts energy production toward glycolysis, contributing to the Warburg effect in cancer. By detecting HIF-1 alpha, researchers can investigate how hypoxia drives physiological and pathological processes.

Western blot assays detect HIF-1 alpha stabilization in hypoxic cells. Immunohistochemistry maps nuclear accumulation in hypoxic tumor regions, while immunofluorescence highlights dynamic nuclear translocation. ELISA quantifies HIF-1 alpha levels in experimental and clinical samples. These assays make HIF1A antibody an essential reagent for hypoxia biology.

HIF-1 alpha controls genes involved in angiogenesis, erythropoiesis, glucose metabolism, and apoptosis. Dysregulation contributes to cancer progression, ischemic disease, and inflammatory disorders. Therapeutic strategies aim to inhibit HIF-1 alpha in cancer or enhance its activity in ischemic injury. By applying HIF1A antibody, scientists can monitor pathway activity and evaluate therapeutic interventions.

HIF1A antibody from NSJ Bioreagents provides dependable specificity for detecting hypoxia inducible factor 1 alpha. Its performance across multiple assays ensures accurate evaluation of hypoxia signaling in research and clinical contexts.

Application Notes

Optimal dilution of the HIF1A antibody should be determined by the researcher.

Immunogen

A synthesized peptide derived from human HIF-1-alpha was used as the immunogen for the HIF1A antibody.

Storage

Store the HIF1A antibody at -20oC.