Novus Biologicals, Inc
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Catalog Number: NB100-296SS

Background: Hypoxia contributes significantly to the pathophysiology of major categories of human disease, including myocardial and cerebral ischemia, cancer, pulmonary hypertension, congenital heart disease and chronic obstructive pulmonary disease.

HIF-1 is a nuclear protein involved in mammalian oxygen homeostasis. This occurs as a posttranslational modification by prolyl hydroxylation. HIF-1 is a heterodimer composed of HIF-1 alpha and HIF-1 beta subunits. Both subunits are constantly translated. However, under normoxic conditions, human HIF-1 alpha is hydroxylated at Pro402 or Pro564 by a set of HIF prolyl hydroxylases, is polyubiquinated, and eventually degraded in proteosomes. Under hypoxic conditions, the lack of hydroxylation prevents HIF degradation and increases transcriptional activity. Therefore, the concentration of HIF-1 alpha increases in the cell. In contrast, HIF-1 beta remains stable under either condition. HIF hydroxylases provide insight into hypoxic cell responses, which may be used to help isolate therapeutic targets.

Alternate Names: anti-Hypoxia-inducible factor 1 alpha antibody, anti-HIF1 alpha antibody, anti-ARNT interacting protein antibody, anti-Hif1a antibody, anti-ARNT interacting protein antibody, anti-HIF-1alpha antibody, anti-Hypoxia inducible factor 1 alpha antibody, anti-Hypoxia inducible factor 1 alpha subunit basic helix antibody

Research Areas: 10,348,0

Immunogen: Human HIF-1 alpha amino acids 329-530.

Clone: HA111

Isotype: IgG2 alpha

Specificity: This antibody is specific for HIF-1 alpha.

Species Reactivity: NB 100-296 recognizes human. Other species have not been tested.

Uses: Western blot analysis.

Suggested working dilutions: *
ELISA - TBD
Western Blot - 1:500-1:1,000 (ECL)
Immunohistochemistry - TBD
*The investigator should determine the optimal working dilution for a specific application.

**Nuclear extracts should be used for Western analysis
* Other applications have not been tested.

Dilutions: Suggested working dilutions *
Western Blot
* Investigator should determine optimal working dilutions.

Packaging: 0.025 ml protein G purified Mouse ascites.

Concentration: 1.1 mg/ml

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Preservative:	Sodium Azide
Storage:	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze thaw cycles.
Notes:	You may use COS-7 treated and untreated nuclear extracts for your positive and negative controls for hypoxic upregulation: <a href=http://www.novus-biologicals.com/data_sheet.php/18616/S/pc26>NB 800-PC26, COS-7 Nuclear Extract Kit </A>>> * The mobility of HIF-1 alpha induced by desferrioxamine or cobalt chloride treatment differs from the mobility of the hypoxia-induced protein. The reason is not known.
Novus Specific References:	1. Gillespie, D.L., et al. Silencing of Hypoxia Inducible Factor-1alpha by RNA Interference Attenuates Human Glioma Cell Growth In vivo. Clin. Cancer res. 2007 13: 2441-2448. 2. Lauzier M-C, Robitaille GA, Chan DA, et al. (2R)-[(4-Biphenylylsulfonyl)amino]-N-hydroxy-3-phenylpropionamide (BiPS), a Matrix Metalloprotease Inhibitor, Is a Novel and Potent Activator of Hypoxia-Inducible Factors. Mol Pharmacol 2008;74(1):282-288.
Gene Id:	3091
Reference Sequence:	Q16665

Image(s)