

Catalog Number:	NB100-131SS
Background:	<p>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.</p> <p>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 polyubiquitinated, 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.</p>
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:	ESEE122
Isotype:	IgG1
Specificity:	This antibody is specific for HIF-1 alpha.
Localization:	Nuclear
Species Reactivity:	NB 100-131 recognizes human, bovine, mouse and rat HIF-1 alpha.
Uses:	<p>NOT recommended specifically for western analysis, although some researchers use for western analysis and prefer this antibody.</p> <p>Immunocytochemistry - has been used on mouse macrophages (RAW cells) in tissue culture</p> <p>The investigator should determine the optimal working dilution for a specific application.</p> <p>Procedure: http://ihcworld.com/_protocols/antibody_protocols/hif_1alpha_novus.htm</p> <p>* Other applications have not been tested.</p>
Dilutions:	<p>Suggested working dilutions *</p> <p>immunohistochemistry 1:100-1:5000,</p> <p>immunofluorescence ,</p> <p>immunoprecipitation ,</p> <p>Immunocytochemistry ,</p> <p>Immunohistochemistry-Paraffin ,</p> <p>Immunohistochemistry-Frozen ,</p>

* Investigator should determine optimal working dilutions.

Packaging:	0.025 ml protein G purified Mouse ascites.
Concentration:	2 mg/ml
Buffer:	PBS
Preservative:	0.01% sodium azide
Storage:	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Notes:	Antigen retrieval is recommended. The image provided was done on a 4uM paraffin embedded section.

A good positive control for IHC is glioblastoma multiforme.

Product Specific References: These references discuss the use of this clone but not this particular antibody production.

1. Talks, K.L. and Turley, H. Amer. J. of Pathology. 157: 411-421 (2000) (Immunohistochemistry and Western Blot)
2. Weisener, M.S. and Turley, H. Blood. 92: 2260-2268 (1998)
3. Giatromanolaki, A., et al. Cancer Research. 61: 7992-7998 (2001)
4. Koukourakis, MI, et al. Cancer Research. 61: 1830-1832 (2001) (Immunohistochemistry)
4. Beasley, Nigel J.P., et al. Cancer Research. 62: 2493-2497 (2002) (Immunohistochemistry)

- Novus Specific References:**
1. Abbate, A., et al. Cyclo-oxygenase-2 (COX-2) expression at the site of recent myocardial infarction: friend or foe? Heart. 90:440-443, 2004. (Immunohistochemistry, human)
 2. Khan, Aahida., et al. Gastrointestinal, hepatobiliary and pancreatic pathology: Peroxisomal Localization of Hypoxia-Inducible Factors and Hypoxia Inducible Factor Regulatory Hydroxylases in Primary Rat Hepatocytes Exposed to Hypoxia-Reoxygenation. 169: 1251-1269, 2006.
 3. Carroll, Patrick A., et al. Virus-Cell Interactions: Latent Kaposi's Sarcoma-Associated Herpesvirus Infection of Endothelial Cells Activates Hypoxia-Induced Factors. 80: 10802-10812, 2006
 4. Piovani, E., et al. Differential Regulation of Hypoxia-Induced CXCR4 Triggering during B-Cell Development and Lymphomagenesis. Cancer Research. 67: 8605-8614, 2007.
 5. Peddinti, R., et al. Prominent Microvascular Proliferation in Clinically Aggressive Neuroblastoma. Clin. Cancer Res. 2007 13: 3499-3506.
 6. Kubo T, Sugita T, Shimose S, Matsuo T, Arihiro K, Ochi M. Expression of hypoxia-inducible factor-1{alpha} and its relationship to tumour angiogenesis and cell proliferation in cartilage tumours. J Bone Joint Surg Br. March 1, 2008;90-B(3):364-70. (IHC)
 7. Sutton TA, Wilkinson J, Mang HE, et al. p53 regulates renal expression of HIF-1{alpha} and pVHL under physiological conditions and after ischemia-reperfusion injury. Am J Physiol Renal Physiol 2008;295(6):F1666-1677.
 8. Viola RJ, Provenzale JM, Li F, et al. In Vivo Bioluminescence Imaging Monitoring of Hypoxia-Inducible Factor 1{alpha}, a Promoter That Protects Cells, in Response to Chemotherapy. Am J Roentgenol 2008;191(6):1779-1784.



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Gene Id: 3091

Reference Sequence: Q16665

Image(s)