

Catalog Number:	NB100-123SS
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:	Fusion protein containing amino acids 432-528 of human HIF-1alpha
Clone:	H1alpha67
Isotype:	IgG2b
Specificity:	This antibody is specific for HIF-1alpha.
Localization:	HIF-1 is a nuclear protein that activates gene transcription in response to reduced cellular O ₂ concentration. Activates transcription of EPO, VEGF, iNOS, heme oxygenase 1 and other critical intracellular responses to hypoxia.
Species Reactivity:	Recognizes human, sheep, mouse, rat, pig, bovine and ferret HIF-1 alpha.
Uses:	<p>By Western blot, recognizes bands at 120kDa representing HIF-1 alpha in induced tissues and cells. Multiple bands may be seen at 120kDa representing post-translational modification. Can also be used for immunohistochemistry detection of human HIF-1alpha.</p> <p>The investigator should determine the optimal working dilution for a specific application.</p> <p>* Other applications have not been tested.</p>
Dilutions:	<p>Suggested working dilutions *</p> <p>immunohistochemistry 1:500-1000, Western Blot 1:500-1000</p> <p>* Investigator should determine optimal working dilutions.</p>
Packaging:	0.025 ml protein G purified cell culture supernatant.

Concentration: 2.0 mg/ml
Buffer: PBS
Preservative: 0.05% Na azide
Storage: Store at 4C. Avoid freeze thaw cycles.

Notes: This antibody has demonstrated varying results in Western blot applications. Product NB100-105 is recommended for most Western blot experiments.

You may use COS-7 treated and untreated nuclear extracts for your positive and negative controls for hypoxic upregulation, NB800-PC26.

A good positive control for IHC is glioblastoma multiforme.

* 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:**
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Gene Id: 3091

Reference Sequence: Q16665

Image(s)