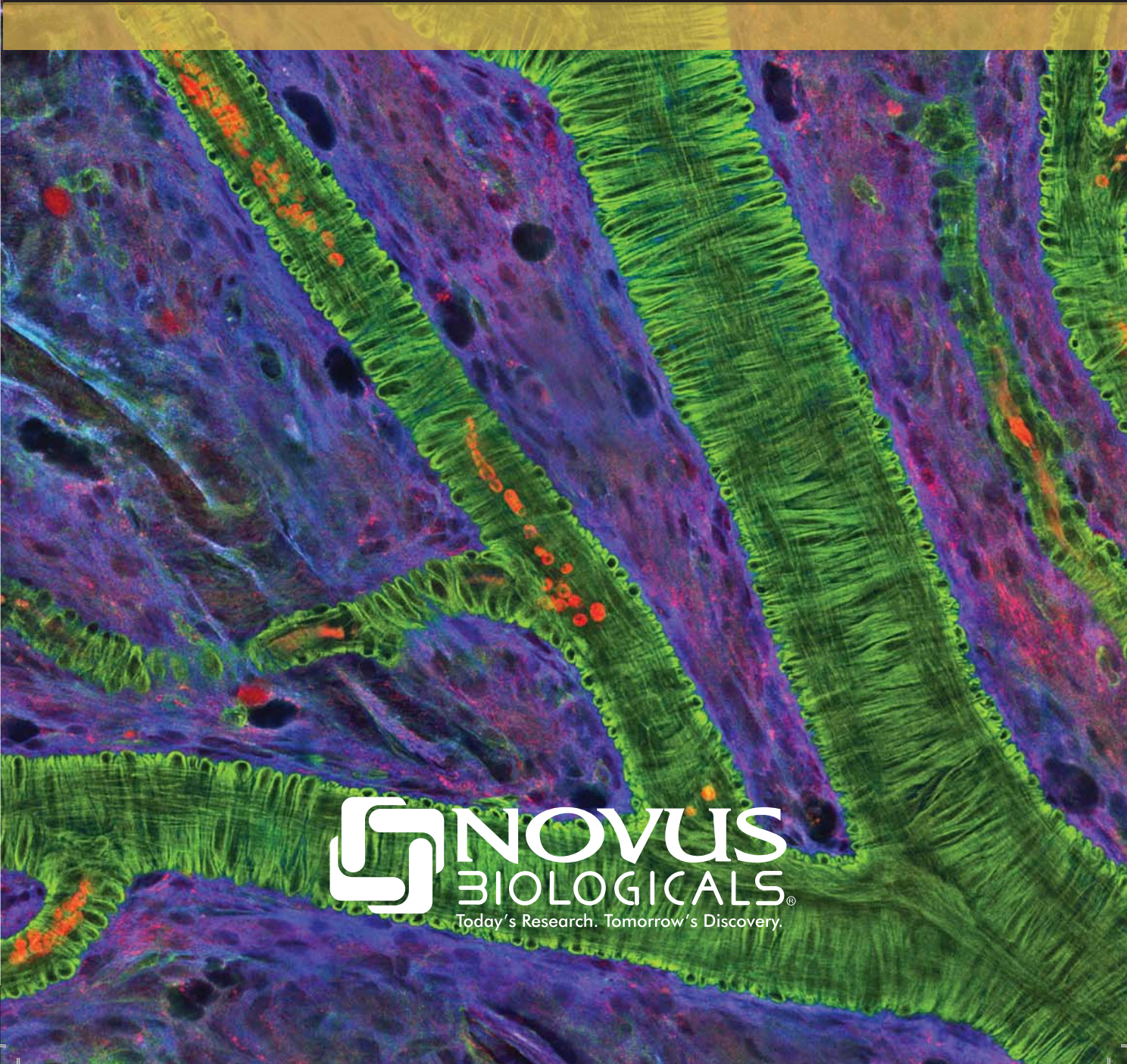


CATALOG OF ANTIBODIES FOR

# HYPOXIA



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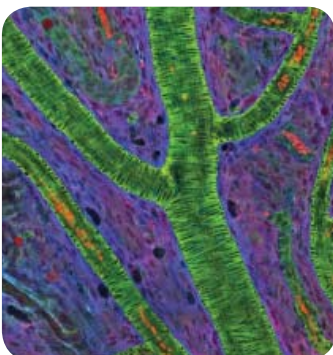
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## Application Key

- ChIP** - Chromatin IP
- ELISA** - Enzyme-linked Immunosorbent Assay
- FACS** - Fluorescent Activated Cell Sorting
- ICC** - Immunocytochemistry
- IF** - Immunofluorescence
- IHC** - Immunohistochemistry
- IHC-Fr** - Immunohistochemistry Frozen
- IHC-P** - Immunohistochemistry Paraffin
- IP** - Immunoprecipitation
- WB** - Western Blot

## Reactivity Key

- |                        |                        |
|------------------------|------------------------|
| <b>Bv</b> - Bovine     | <b>Mk</b> - Monkey     |
| <b>Ca</b> - Canine     | <b>Mu</b> - Mouse      |
| <b>Ch</b> - Chicken    | <b>Po</b> - Porcine    |
| <b>Eq</b> - Equine     | <b>Rb</b> - Rabbit     |
| <b>Fi</b> - Fish       | <b>Rt</b> - Rat        |
| <b>Fr</b> - Ferret     | <b>Sh</b> - Sheep      |
| <b>Gp</b> - Guinea Pig | <b>Xp</b> - Xenopus    |
| <b>Ha</b> - Hamster    | <b>Ze</b> - Zebra Fish |
| <b>Hu</b> - Human      |                        |

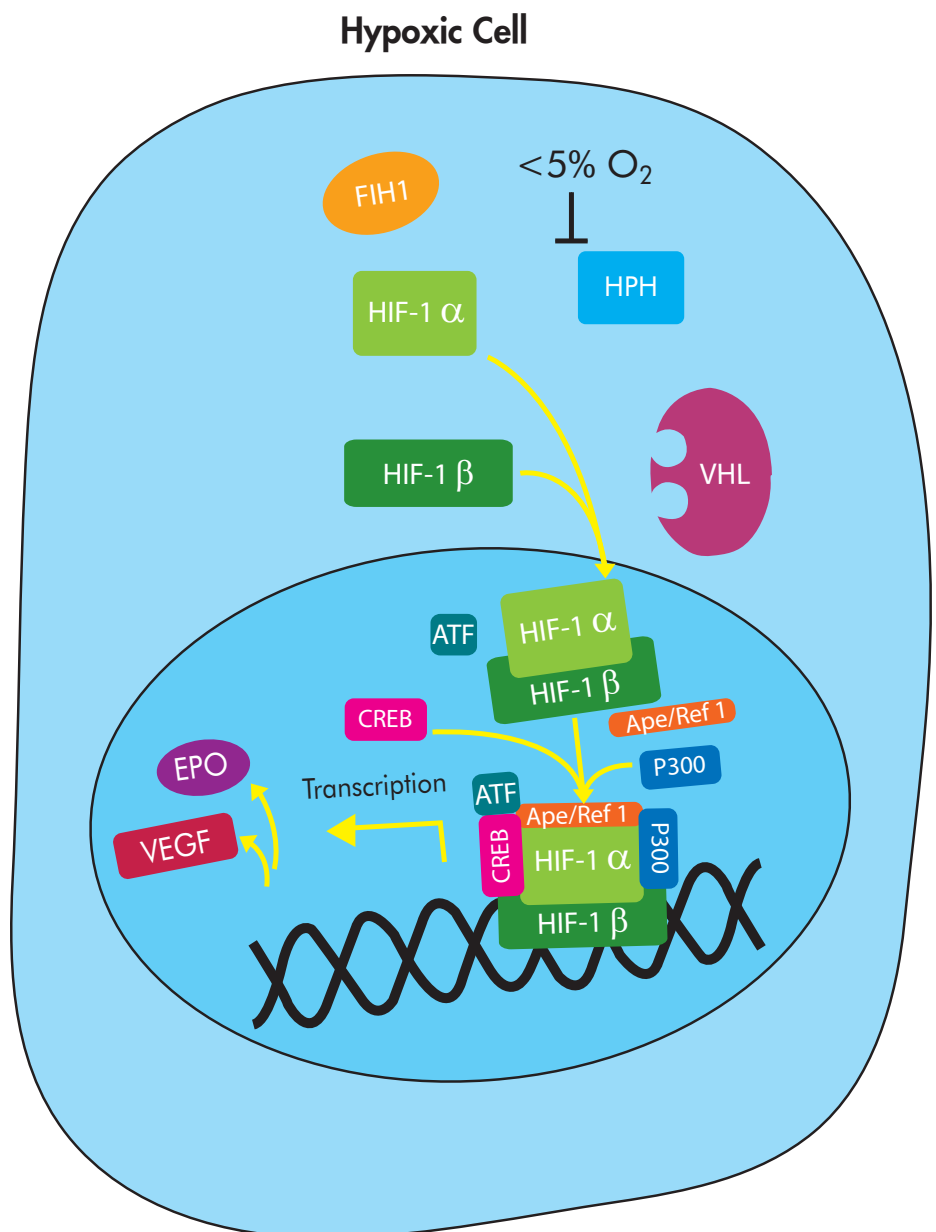


**Cover Image:**  
Red blood cells in the artery

# Hypoxia

Hypoxia is a pathological condition characterized by deprivation of adequate oxygen supply to the body as a whole (generalized hypoxia). 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.

Hypoxia-inducible factors (HIFs) are transcription factors that respond to changes in the levels of available oxygen in the cellular environment, specifically decreases, known as hypoxia. This transcriptional complex plays a role in mammalian oxygen homeostasis and is comprised of an alpha-beta heterodimer; HIF-1 beta is a constitutive nuclear protein that dimerizes with oxygen-regulated HIF-1 alpha subunits.

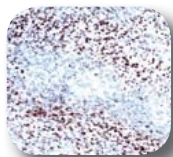


# HIF-1 Alpha Antibodies

HIF-1 is a nuclear protein involved in mammalian oxygen homeostasis. HIF-1 is a heterodimer comprised 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. Hydroxylated HIF-1 alpha is polyubiquitinated, and degraded via the ubiquitin-

proteasome pathway. HIF-1 alpha acts by binding to hypoxia-response elements (HREs) in the promoters of genes involved in the adaptation to an environment of insufficient oxygen or hypoxia. Hypoxic tissue environments occur in vascular and pulmonary diseases as well as in tumors, thus HIF-1 alpha acts to regulate numerous processes.

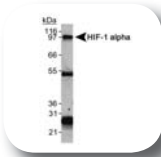
## HIF-1 Alpha (H1alpha67) Antibody NB100-105



Immunohistochemical analysis of human glioblastoma multiforme using NB100-105.

Species: Bv, Ha, Hu, Mu, Po, Mk, Rt, Rb, Ft, Sh  
Applications: ChIP, IF, IP, WB, IHC-P, IHC-Fr

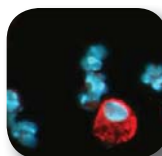
## HIF-1 Alpha (H1alpha67) Antibody NB100-123



Immunoprecipitation of HIF-1 alpha using NB100-123.

Species: Bv, Hu, Mu, Po, Mk, Rt, Ft, Sh  
Applications: IHC, WB, IHC-P

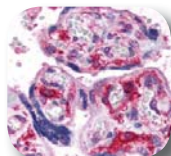
## HIF-1 Alpha (ESEE122) Antibody NB100-131



Immunofluorescent detection of HIF-1 alpha (red) in a cell cytoplasm from a lavage of a murine skin pouch using NB100-131.

Species: Bv, Hu, Mu, Rt  
Applications: IF, IP, ICC, IHC-P, IHC-Fr

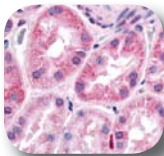
## HIF-1 Alpha Antibody NB100-479



Immunohistochemical analysis of human placental villi using NB100-479.

Species: Hu, Mu, Mk, Rt  
Applications: IHC, WB, IHC-P

## HIF-1 Alpha Antibody NB100-134



Immunohistochemical analysis of human kidney tissues using NB100-134.

Species: Hu, Mu, Mk, Rt  
Applications: WB, IHC-P, ChIP, IP

## HIF-1 Alpha Antibody NBP1-02160



Western blot analysis of COS7 CoCl treated cells (lane 1) and COS7 untreated cells (lane 2) using NBP1-02160.

Species: Bv, Ca, Hu, Mu, Po, Mk, Rt  
Applications: WB

**Also Available  
Conjugated to: HRP,  
Biotin, HiLyte 488,  
DyLight 488, 549  
and 649.**

## HIF-1 Alpha (HA111) Antibody NB100-296



Western blot analysis of human placental villous explant total protein using NB100-296.

Species: Hu  
Applications: WB

## HIF-1 Alpha Antibody NB100-654



Western blot analysis of COS7 CoCl treated and untreated nuclear extracts using NB100-654.

Species: Hu, Bv, Po  
Applications: WB

## Can't Decide? Try a Sample Pack:

**NB100-900WB • HIF-1 Alpha Western Blot Sample Pack**

**NB100-901IHC • HIF-1 Alpha Immunohistochemistry Sample Pack**

**NB100-905 • HIF-1 Alpha Mouse Reactive Sample Pack**

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Visit our website, [www.novusbio.com](http://www.novusbio.com) and fill out the Antibody Grant Sheet for a chance to receive 2 mgs of FREE antibody!

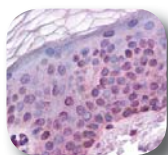
Grant Award Date: 1 Award selected on the 15th of every month. Awardees will receive a 0.2 mg test sample of affinity purified rabbit sera. (Typical antibody production takes 4-5 months). If the product works and you supply the necessary documentation, you will receive **2 mgs** of affinity purified antibody in exchange for product feedback. Submit by the end of the month to be selected in the following month's drawing by fax (below) or email ([novus@novusbio.com](mailto:novus@novusbio.com)).

# HIF-1 Beta Antibodies

HIF-1 is a nuclear protein involved in mammalian oxygen homeostasis. HIF-1 is part of a heterodimer comprised of HIF-1 alpha and HIF-1 beta subunits. HIF-1 beta, also known as aryl hydrocarbon receptor nuclear translocator (ARNT), is a ligand

activated transcription factor which binds various aryl hydrocarbons, such as dioxin or benzo(a)pyrene, and mediates their toxic and carcinogenic biological responses.

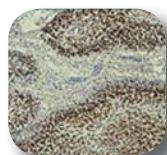
## HIF-1 Beta Antibody NB100-110



Immunohistochemical analysis of epidermis using NB100-110.

Species: Bv, Hu, Mu, Rt, Ft, Sh  
Applications: ChIP, IHC, IP, WB, IHC-P

## HIF-1 Beta (H1beta234) Antibody NB100-124



Immunohistochemical analysis of human glioblastoma multi-forme using NB100-124.

Species: Bv, Hu, Mu, Rt, Ft, Sh  
Applications: WB, IHC-P

**Can't Decide?**  
**Try the HIF-1 Beta SuperNovus Pack**  
**Includes: NB100-110, NB100-124 and NB100-133**

# HIF-2 Alpha Antibodies

HIF-2 alpha is stabilized in hypoxic tissue and, similar to HIF-1 alpha, it complexes with HIF-1 beta (ARNT). Both the HIF-1 and HIF-2 complexes bind hypoxia-response elements (HREs), the promoters of many genes

involved in assisting a cell to adapt to an environment of insufficient oxygen or hypoxia. HIF-2 alpha is also a potent activator of the Tie-2 gene, which is known to be selectively expressed in endothelial cells.

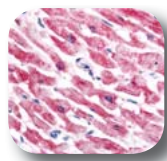
## HIF-2 Alpha Antibody NB100-122



Western blot analysis on normoxic and hypoxic nuclear rat cell lysates using NB100-122.

Species: Hu, Mu, Rt, Fi  
Applications: IHC, WB, IHC-P

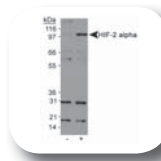
## HIF-2 Alpha (ep190b) Antibody NB100-132



Immunohistochemical staining of cardiac myocytes using NB100-132.

Species: Hu, Mu, Rt  
Applications: FACS, WB, IHC-P

## HIF-2 Alpha Antibody NB100-480



Western blot analysis of COS-7 CoCl (positive control) and untreated (negative control) cells using NB100-480.

Species: Hu, Mu, Mk  
Applications: WB, IHC-P

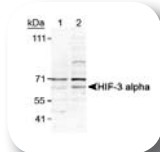
**Also Available Conjugated to: HRP, Biotin, HiLyte 488, DyLight 488, 549 and 649.**

**Can't Decide? Try a Sample Pack: NB100-902 • HIF-2 Alpha Sample Kit**

# HIF-3 Alpha Antibodies

The HIF-3 alpha protein is one of several alpha/beta-subunit heterodimeric transcription factors that regulates adaptive responses to low oxygen tension (hypoxia). The alpha 3 subunit lacks the transactivation domain found in factors containing either the alpha 1 or alpha 2 subunits. HIF-3 alpha may be a marker for tumor growth and angiogenesis.

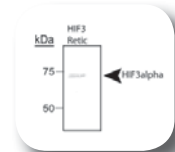
## HIF-3 Alpha Antibody NB100-2529



Species: Hu, Mu  
Applications: IP, WB

Western blot analysis of COS7 untreated cells (lane 1) and COS7 CoCl treated cells (lane 2) using NB100-2529.

## HIF-3 Alpha Antibody NB100-2287



Species: Mu  
Applications: WB

Western blot analysis of reticulocyte lysate using NB100-2287.

# Autophagy and Hypoxia

Hypoxia is a critical factor in cell death or survival during an ischemic stroke, but the pathological consequences of combined ischemia-hypoxia are not fully understood. Such a combination may trigger pathological events that are not induced by ischemia alone, such as autophagy (self-eating). Although

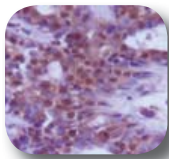
autophagy is generally a cell survival and developmental mechanism, massive autophagy is associated with cell death and it plays a wide variety of physiological and pathophysiological roles. It is thought that the combination of ischemia and hypoxia accelerate an energy crisis and precipitate autophagy.

## Beclin 1 Antibodies

Beclin 1 is the first identified mammalian gene to mediate autophagy. It also acts as a tumor suppressor and has antiviral function. In gene trans-

fer studies, Beclin 1 promotes nutrient deprivation-induced autophagy, inhibits mammary tumorigenesis, and inhibits viral replication.

### Beclin 1 Antibody NB110-87318



Immunohistochemical analysis of normal breast tissue using NB110-87318.

Species: Bv, Ch, Hu, Mu, Po, Mk, Rt, Xp  
Applications: WB, IHC-P

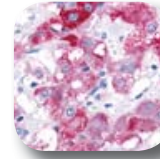
### Beclin 1 Antibody NB500-266



Western blot analysis of liver lysates using NB500-266. Lane 1: mouse liver Lane 2: human liver

Species: Hu, Mu  
Applications: WB

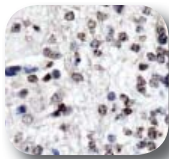
### Beclin 1 Antibody NB500-249



Immunohistochemical analysis of pheochromocytoma cells of the adrenal medulla using NB500-249.

Species: Hu, Mu  
Applications: IF, IP, WB, IHC-P

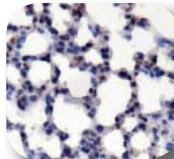
### Beclin 1 (1B7) Antibody NBP1-00084



Immunohistochemical analysis of mouse brain using NBP1-00084.

Species: Bv, Ch, Hu, Mu, Po, Mk, Rt, Eq  
Applications: WB, IHC-P

### Beclin 1 (4H10) Antibody NBP1-00085



Immunohistochemical analysis of mouse lung using NBP1-00085.

Species: Bv, Ch, Hu, Mu, Po, Mk, Rt, Eq  
Applications: WB, IHC-P

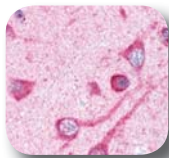
**Can't Decide? Try the Beclin Antibody Sample Pack: NB910-95609**  
**Includes:**  
**NB 500-249, NB500-266, and NB110-87318.**

## LC3 Antibodies

LC3, a mammalian homologue of Apg8, was originally identified as microtubule-associated protein 1 light chain 3. It is a component of both the MAP1A and MAP1B microtubule-binding domain and it is thought that the heavy-chain independent regulation of LC3 expression modifies MAP1 microtubule-binding

activity during development. Moreover, LC3 is now thought to also be involved in autophagy. LC3-I is cytosolic and LC3-II is membrane bound and enriched in the autophagic vacuole fraction. LC3-II is the first mammalian protein identified that specifically associates with the autophagosome membranes.

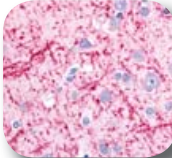
### LC3 Antibody NB100-2220



Immunohistochemical analysis of cerebral cortex neurons with cell processes using NB100-2220.

Species: Hu, Mu, Rt  
Applications: IP, WB, IHC-P

### LC3 Antibody NB100-2331



Immunohistochemical analysis of human cerebral cortex cell processes using NB100-2331.

Species: Hu, Mu, Rt, Bv, Xp  
Applications: IP, WB, IHC-P

### LC3 Antibody NB600-1384



Immunohistochemical analysis of treated U373-MG (human glioblastoma) cells using NB600-1384.

Species: Hu, Mu  
Applications: IHC, IF, WB, ICC

### Can't Decide? Try a Sample Pack:

**NB910-40435 • LC3 Antibody SuperNovus Pack**  
**NB910-40752 • LC3/LC3B Antibody SuperNovus Pack**

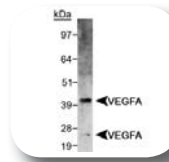
# VEGF Antibodies

Vascular endothelial growth factor (VEGF) is an important signaling protein involved in both vasculogenesis (the de novo formation of the embryonic circulatory system) and angiogenesis (the growth of blood vessels from pre-existing vasculature).

As its name implies, VEGF activity has been mostly studied on cells of the vascular endothelium, although it does effect a number of other cell types, such as neurons, cancer cells and kidney epithelial cells.

Catalog #	Product	Host	Type	Application	Species
NB600-1204	VEGF	Chicken	Polyclonal	ICC, IHC, WB	Hu, Mu, Rt
NB100-698	VEGF	Rabbit	Polyclonal	IHC	Hu, Mu, Rt
NB600-548	VEGF (5C3.F8)	Mouse	Monoclonal	IHC-P, WB	Hu, Mu
NB110-57642	VEGF (EP1176Y)	Rabbit	Monoclonal	FACS, IHC, IP, WB, ICC	Hu
NB100-664	VEGF (VG1)	Mouse	Monoclonal	IF, WB, IHC-P, IHC-Fr	Ca, Hu, Mu, Rt
NB100-648	VEGF (VG76e)	Mouse	Monoclonal	ELISA, IP, WB, IHC-P	Bv, Hu, Po
NB100-2381	VEGFA	Rabbit	Polyclonal	WB	Hu, Mu, Rt, Po, Ha, Ch, Gp, Ca, Bv
NB600-1003	VEGFA	Rabbit	Polyclonal	ELISA, WB	Hu, Mu, Rt
NB600-1002	VEGFC	Rabbit	Polyclonal	ELISA, IP, WB	Mu, Rt
NB600-1007	VEGFR1	Rabbit	Polyclonal	ELISA, IP	Hu
NB100-527	VEGFR1	Rabbit	Polyclonal	WB	Hu
NB100-685	VEGFR1	Rabbit	Polyclonal	IHC-P, IHC-Fr, WB	Hu, Mu, Rt
NB200-207	VEGFR1 (EIC)	Mouse	Monoclonal	FACS, ELISA, IHC-Fr	Hu
NB600-1006	VEGFR1 (EWF)	Mouse	Monoclonal	ELISA, IF, IP, WB	Hu
NB600-1004	VEGFR1 (Flt-1/EWC)	Mouse	Monoclonal	ELISA, IP, WB	Hu, Mu
NB110-57643	VEGFR1 (Y103)	Rabbit	Monoclonal	IHC-P, IHC-Fr, IP, WB, ICC	Hu, Mu
NB100-2382	VEGFR2	Rabbit	Polyclonal	WB	Hu
NB100-529	VEGFR2	Rabbit	Polyclonal	WB	Hu
NB100-530	VEGFR2	Rabbit	Polyclonal	WB	Hu
NB100-627	VEGFR2	Rabbit	Polyclonal	WB, IP	Hu, Mu
NB100-686	VEGFR2	Rabbit	Polyclonal	IF, IHC-Fr, IHC-P, WB	Hu, Mu, Rt
NB600-1433	VEGFR2	Rabbit	Polyclonal	IHC-P, WB	Hu, Mu, Rt
NB200-208	VEGFR2 (EIC)	Mouse	Monoclonal	FACS, ELISA, IHC	Hu, Rt
NB100-40753	VEGFR2 (EIC), Biotin	Mouse	Monoclonal	FACS, ELISA, WB	Hu, Rt
NB110-57149	VEGFR2 (EPRER16Y)	Rabbit	Monoclonal	WB, IP	Hu
NB110-57644	VEGFR2 (EP105Y)	Rabbit	Monoclonal	WB	Hu
NB600-1009	VEGFR2 (EWC)	Mouse	Monoclonal	FACS, ELISA, WB	Hu
NB110-9982	VEGFR2 (KDR-2 or 260.4)	Mouse	Monoclonal	WB	Hu
NSB1047	VEGFR2 [Tyr1054/Tyr1059]	Rabbit	Polyclonal	WB	Hu, Mu, Rt
NSB1046	VEGFR2 [Tyr1054]	Rabbit	Polyclonal	WB	Mu
NSB1052	VEGFR2 [Tyr1214]	Rabbit	Polyclonal	WB	Hu, Mu
NSB1040	VEGFR2 [Tyr951]	Rabbit	Polyclonal	WB	Hu
NB600-1010	VEGFR3	Rabbit	Polyclonal	ELISA, IP, WB	Hu
NB120-15295	VEGFR3	Rabbit	Polyclonal	IHC-P	Hu, Mu, Rt

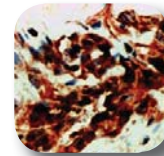
## VEGFA Antibody NB100-2381



Western blot analysis of CSF-1R/VEGFA chimera transfected lysate using NB100-2381.

Species: Hu, Mu, Rt, Po, Ha, Ch, Gp, Ca, Bv  
Applications: WB

## VEGFR1 Antibody NB100-685



Immunohistochemical analysis of human angiosarcoma using NB100-685.

Species: Hu, Mu, Rt  
Applications: WB, IHC-P, IHC-Fr

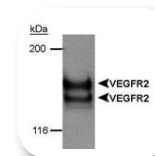
## VEGFR1 Antibody NB100-527



Western blot analysis of chimeric CSF-1R/VEGFR-2 detection in transfected lysates using NB100-527.

Species: Hu  
Applications: WB

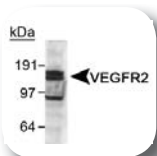
## VEGFR2 Antibody NB100-529



Western blot analysis of CSF-1 receptor/VEGFR2 chimera transfected lysate using NB100-529.

Species: Hu  
Applications: WB

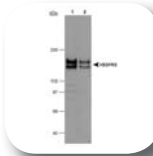
## VEGFR2 Antibody NB100-2382



Western blot analysis of CSF-1R/VEGFR2 chimera transfected lysate using NB100-2382.

Species: Hu  
Applications: WB

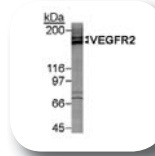
## VEGFR2 Antibody NB100-627



Western blot analysis of VEGFR2 in CSF-1/VEGFR2 transfected lysates using NB100-627.

Species: Hu, Mu  
Applications: IP, WB

## VEGFR2 Antibody NB100-530



Western blot analysis of VEGFR-2 doublet in VEGFR-2 induced HUVEC lysate using NB100-530.

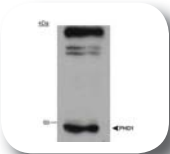
Species: Hu  
Applications: WB

# EGLN Antibodies

Prolyl hydroxylases capable of modifying HIF-1 alpha are encoded by three genes termed EGLN 1, 2, and 3 because of their homology to the egl-9 gene of *C. elegans*. These proteins have also been named HIF prolyl hydroxylases (HPH) and prolyl hydroxylase domain proteins (PHD). It has been suggested that different EGLN proteins function as hydroxylases for separate pools of cytoplasmic and nuclear HIF-1 alpha.

When over-expressed, each of the EGLN proteins can hydroxylate and reduce HIF-1 alpha protein levels and activity. Hypoxia-dependent up-regulation of select EGLN proteins makes an attractive negative feedback mechanism that could act to ensure the rapid removal of HIF-1 alpha subunits when hypoxic cells are reoxygenated.

## HIF Prolyl Hydroxylase 1 Antibody NB100-310

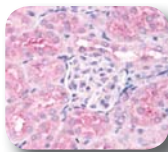


Western blot analysis of human PHD1 using NB100-310.

Species: Hu, Mu, Rt  
Applications: WB

Catalog#	Product	Host	Type	Application	Species
<b>NB100-310</b>	HIF Prolyl Hydroxylase 1	Rabbit	Polyclonal	WB	Hu, Mu, Rt
<b>NB100-138</b>	HIF Prolyl Hydroxylase 2	Rabbit	Polyclonal	WB	Hu
<b>NB100-137</b>	HIF Prolyl Hydroxylase 2	Rabbit	Polyclonal	WB, FACS	Hu, Rt
<b>NB100-2219</b>	HIF Prolyl Hydroxylase 2	Rabbit	Polyclonal	IHC, WB, IP	Mu
<b>NB100-303</b>	HIF Prolyl Hydroxylase 3	Rabbit	Polyclonal	WB	Hu, Mu
<b>NB100-139</b>	HIF Prolyl Hydroxylase 3	Rabbit	Polyclonal	WB	Hu, Rt
<b>NB100-295</b>	HIF Prolyl Hydroxylase 4	Rabbit	Polyclonal	WB	Hu, Mu

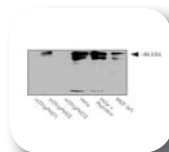
## HIF Prolyl Hydroxylase 2 Antibody NB100-2219



Immunohistochemical analysis of mouse renal tubular epithelium using NB100-2219.

Species: Mu  
Applications: IHC, IP, WB

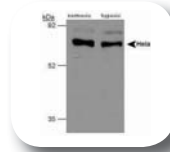
## HIF Prolyl Hydroxylase 2 Antibody NB100-138



Western blot analysis of human PHD2 using NB100-138.

Species: Hu  
Applications: WB

## HIF Prolyl Hydroxylase 4 Antibody NB100-295



Western blot analysis of HeLa whole cell lysate (normoxic and hypoxic) using NB100-295.

Species: Hu, Mu  
Applications: WB

## Can't Decide? Try a Sample Pack:

**NB100-903PHD • HIF Prolyl Hydroxylases PHD1, PHD2, PHD3 and PHD4 Antibody Sample Pack**

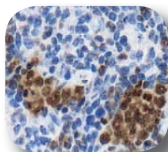
# Lysyl Oxidase Antibodies

Lysyl oxidase (LOX) is a copper-dependent amine oxidase that plays a critical role in the biogenesis of connective tissue matrices by crosslinking the extracellular matrix proteins, collagen and elastin.

Levels of LOX are elevated in hypoxic human tumors. Research shows that LOX is regulated by HIF and that tumors expressing LOX at high levels are associated with increased metastasis and poor patient prognosis.

Catalog#	Product	Host	Type	Application	Species
<b>NB100-2530</b>	LOX	Rabbit	Polyclonal	IHC-P, WB	Hu, Mu, Rt, Bv, Po, Xp, Ch, Ze
<b>NB100-2527</b>	LOX	Rabbit	Polyclonal	IHC-P, WB	Hu, Mu
<b>NB100-56842</b>	LOX	Rabbit	Polyclonal	ELISA	Mu, Hu, Mk, Rt, Ca, Po
<b>NB110-59729</b>	LOX	Rabbit	Polyclonal	IHC, IHC-P, WB	Mu, Rt

## LOX Antibody NB110-59729



Immunohistochemical analysis of mouse spleen using NB110-59729.

Species: Mu, Rt  
Applications: IHC-P, WB

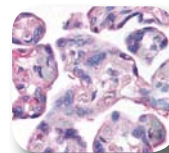
## LOX Antibody NB100-2527



Western blot analysis of human kidney lysate using NB100-2527.

Species: Hu, Mu  
Applications: IHC, WB

## LOX Antibody NB100-2530



Immunohistochemical analysis of human placental villi (trophoblasts) using NB100-2530.

Species: Hu, Mu, Rt, Bv, Po, Ch, Ze, Xp  
Applications: WB, IHC-P

# VHL Antibodies

von Hippel-Lindau syndrome (VHL) is an inherited disorder characterized by the formation of tumors and fluid-filled sacs (cysts) in many different parts of the body. Tumors may be either benign or malignant and usually appear during young adulthood. However,

the signs and symptoms of von Hippel-Lindau syndrome can occur throughout life. VHL has been shown to act as a ubiquitin ligase which targets HIF-1 alpha for proteasome degradation.

Catalog#	Product	Host	Type	Application	Species
NB100-1899	von Hippel-Lindau	Rabbit	Polyclonal	WB	Hu
NB100-485	von Hippel-Lindau	Rabbit	Polyclonal	WB	Hu
NB100-488	von Hippel-Lindau	Rabbit	Polyclonal	WB	Rt

## Von Hippel Lindau NB100-485

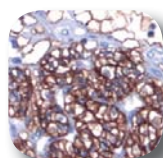


Western blot analysis of human kidney samples using NB 100-485.

Species: Hu  
Applications: WB

# More Hypoxia Antibodies

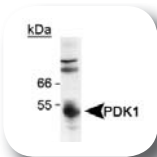
## Carbonic Anhydrase IX Antibody NB100-417



Immunohistochemical analysis of renal carcinoma using NB100-417.

Species: Ca, Hu  
Applications: IF, WB, IHC-P

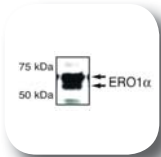
## PDK1 Antibody NB100-2383



Western blot analysis of human heart lysate using NB100-2383.

Species: Hu  
Applications: WB

## ERO1 Antibody NB100-2525



Western blot analysis of endogenous 293T cell lysate using NB100-2525.

Species: Hu, Mu, Rt  
Applications: WB

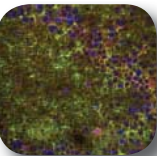
## IRE-1 alpha [Ser724] Antibody NB100-2323



Western blot analysis of wildtype phosphorylated IRE-1 alpha using NB100-2323.

Species: Hu, Mu, Rt  
Applications: WB

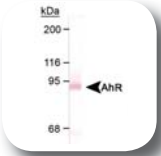
## GLT1b (10B7) Antibody NB110-58775



Immunohistochemical analysis of rat brain using NB110-58775.

Species: Rt, Mu  
Applications: IHC, WB, ICC

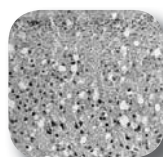
## Aryl Hydrocarbon Receptor Antibody NB100-2289



Western blot analysis of mouse liver cytosol using NB100-2289.

Species: Mu  
Applications: IP, WB, ICC

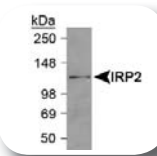
## FIH Antibody NB100-428



Immunohistochemical analysis of rat brain tissue using NB100-428.

Species: Hu, Rt  
Applications: WB, IHC, IP

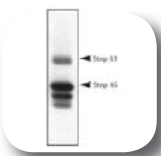
## IRP2 Antibody NB100-1797



Western blot analysis of mouse liver lysate using NB100-1797.

Species: Mu  
Applications: WB

## STEP (23E5) Antibody NB300-202



Western blot analysis of striatal rat protein homogenates using NB300-202.

Species: Rt  
Applications: WB

## Abnova, Acris, biosensis, Innova

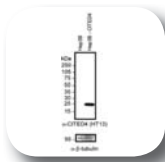
Novus distributes for these companies:



Innova Biosciences



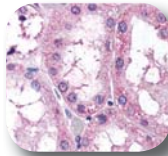
**CITED4 (HT13-2D6.3) Antibody  
NB110-41572**



Western blot analysis of transfected whole cell Hep3B lysate using NB110-41572.

Species: Hu  
Applications: ELISA, IF, IP, WB

**NOX4 Antibody  
NB110-58849**



Immunohistochemical analysis of proximal convoluted tubules of the kidney using NB110-58849.

Species: Mu, Hu, Rt, Bv, Sh, Mk  
Applications: WB, IHC

**LOPP Antibody  
NB110-41568**



Western blot analysis of MC3T3-E1 cell lysate using NB110-41568.

Species: Mu, Rt  
Applications: WB, IHC-P

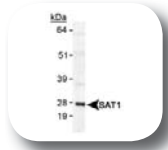
**PUMA Antibody  
NB500-261**



Western blot analysis of HL-60 whole cell lysate using NB500-261.

Species: Hu  
Applications: WB

**SAT1 Antibody  
NB110-41622**



Western blot analysis of human SAT1 transfected lysate using NB110-41622.

Species: Hu  
Applications: WB

**OCT4 Antibody  
NB100-2379**



Western blot analysis of mouse brain lysate using NB100-2379.

Species: Bv, Hu, Mu, Po, Mk  
Applications: WB

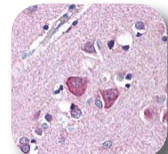
**COX4-1 Antibody  
NB110-39115**



Western blot analysis of HEK 293 lysate using NB110-39115.

Species: Hu, Bv, Mu, Rt, Mk  
Applications: WB

**PGC-1 Beta Antibody  
NB110-58858**



Immunohistochemical analysis of human cortical neurons showing cytoplasmic and nuclear staining using NB110-58858.

Species: Hu  
Applications: IHC, WB

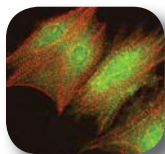
**p14ARF Antibody  
NB200-111**



Western blot analysis of HeLa whole cell lysate using NB200-111.

Species: Hu  
Applications: IF, WB

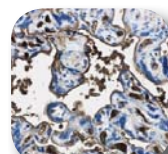
**AKT [Ser473] Antibody  
NB600-590**



Immunofluorescent analysis of cardiomyocytes infected with adenovirus using NB600-590.

Species: Hu  
Applications: ELISA, IHC, IF, WB

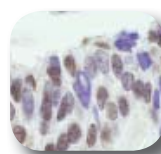
**EPO Antibody  
NB110-60996**



Immunohistochemical analysis of human placenta tissue using NB110-60996.

Species: Hu  
Applications: WB, IHC-P

**CBP Antibody  
NB100-1733**



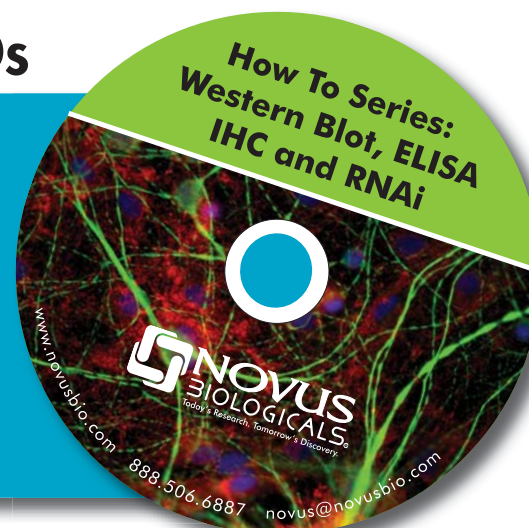
Immunohistochemical analysis of human prostate adenocarcinoma using NB100-1733.

Species: Hu  
Applications: IHC

## How To Series CDs

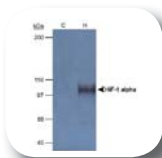
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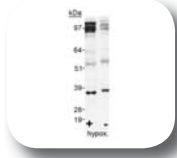
# Hypoxia Positive Controls

## COS-7 Nuclear Lysate Hypoxia Induced and Uninduced NB800-PC26



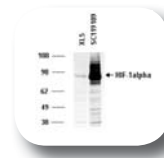
Western blot analysis of NB 800-PC26 using NB100-105, anti-HIF-1 alpha.

## PC12 Nuclear Extracts Lysate Hypoxic and Normoxic NB810-55229



Western blot analysis of NB810-55229 using NB100-122, anti-HIF-2 alpha.

## HIF-1 Alpha HEK293T Cell Transient Overexpression Lysate NB810-61009



Western blot analysis of NB810-61009 using anti-HIF-1 alpha rabbit monoclonal antibody.

# Additional Hypoxia Targets

A20	COX4-2	GSK3B	p53 [Ser15]
Adenovirus Type 5 E1A	COX-IV	GSK3B [Ser9]	p53 [Ser6]
AhR	C-MYC	HIF1AN	p53 [Ser9]
AhR Repressor	DDIT3	HIF-3 alpha	p53 wild type + mutant
AKT	DEC1	HYOU1	p53R2
AKT [Ser473]	DUSP14	Hypoxia Up-regulated 1	p63
AKT [Thr308]	DUSP8	IRE1 alpha	PARP
AKT1	EGFR	IRE1 alpha [Ser724]	PARP1
AKT1 [Ser473]	EGLN	IRP2	PARP1 (Cleaved p25)
AKT2	Endo G	ITGA1	PARP1 (Cleaved p85)
AKT2/3	EP300	JAB-1	PARP10
AKT3	EPAS1	JNK1/2 [Thr183/Tyr185]	PARP11 (p116/p85)
AMPK alpha 1	EPO	JNK2	PARP12
AMPK alpha 2	ERK	Lactate Dehydrogenase	PARP2
Apolipoprotein J	ERK1	MADD	PARP4
ARA9	ERK1/2	MMP2	PDK1
ATM	ERK1/2 [Thr202/ Tyr204+Thr185/Tyr187]	MOP3	PDK1 [Tyr373/Tyr376]
ATM [Ser1981]	ERK1/2 [Thr185/Thr202]	mTOR	PER2
Beta Tubulin 2	ERK1/2 [Thr202/Tyr204]	mTOR [Ser2448]	PLGF
Beta Tubulin 3	ERK2	Myosin	Prolyl 4-Hydroxylase
BMAL	ERK3	NCX-1	Prolyl 4-hydroxylase beta
BNIP3	ERK3	bNOS	SLAH1
BNIP3L	ERO1	eNOS	STEP
Calcineurin	ERO1L	eNOS [Ser116]	TIMP3
Calpastatin	Factor Inhibiting HIF-1	iNOS	TIMP4
Carbonic Anhydrase I	c-Fos	nNOS	TRIB3
Carbonic Anhydrase II	c-Fos [Thr232]	nNOS [Ser1416]	TSC1
Carbonic Anhydrase IX	c-Fos [Thr325]	uNOS	TSC2
Carbonic Anhydrase XII	Fos (c-Fos)	NOS	tumor protein p53
Catalase	GPCR LOC51210	NOS1	TXNDC5
CD105	GbetaL	NOX4	UBE2D1
CD34	GbL	NRP1	UBE2D2
Ceruloplasmin	GLT1b	NRP2	VG5Q
CITED2	Glutamine Synthetase	OS-9	Vimentin
CLOCK	GSK3	Osteopontin	Vimentin [Ser55]
COX1	GSK3 (alpha + beta)	p14ARF	Vimentin [Ser38]
COX2	[Tyr216/Tyr279]	p53	Vimentin [Ser72]
COX4-1	GSK3 beta [Ser9]	p53 [Ser392]	Vimentin [Ser82]



# IN THE NEWS

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6. [[HIF-1 Alpha NB100-131](#)] Piovan, E., et al. Differential Regulation of Hypoxia-Induced CXCR4 Triggering during B-Cell Development and Lymphomagenesis. *Cancer Res.* 2007;67(18):8605-14. [PMID: 17875700]
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8. [[HIF-3 Alpha NB100-2529](#)] Forooghian, F., et al. Hypoxia-inducible factor expression in human RPE cells. *Br. J. Ophthalmol.* 2007;91(10):1406-10. [PMID: 17567660]
9. [[HIF Prolyl Hydroxylase 2 NB100-2219](#)] Mikhaylova, O., et al. The von Hippel-Lindau tumor suppressor protein and Egl 9-type proline hydroxylases regulate the large subunit of RNA Polymerase II in response to oxidative stress. *Mol. Cell. Biol.* 2008;28(8):2701-17. [PMID: 18285459]
10. [[IRE-1 Alpha NB100-2323](#)] Hoozemans, J.J., et al. The Unfolded Protein Response Is Activated in Pretangle Neurons in Alzheimer's Disease Hippocampus. *Am. J. Pathol.* 2000;174(4):1241-51. [PMID: 19264902]
11. [[LC3B NB600-1384](#)] Wei, J., et al. Protective Role of Endogenous Gangliosides for Lysosomal Pathology in a Cellular Model of Synucleinopathies. *Am. J. Pathol.* 2009;174(5):1891-1909. [PMID: 19349362]
12. [[LC3B NB600-1384](#)] Tafani, M., et al. Induction of Autophagic Cell Death by a Novel Molecule is Increased by Hypoxia. *Autophagy.* 2008;16;4(8):1042-53. [PMID: 18927491]
13. [[LOX NB100-2527](#)] Schlotzer-Schrehardt, U., et al. Genotype-Correlated Expression of Lysyl Oxidase-Like 1 in Ocular Tissues of Patients with Pseudoexfoliation Syndrome/Glaucoma and Normal Patients. *Am. J. Pathol.* 2008;173(6):1724-1735. [PMID: 18974306]
14. [[NOX4 NB110-58851](#)] Basuroy S., et al. Nox4 NADPH oxidase mediates oxidative stress and apoptosis caused by TNF- $\alpha$  in cerebral vascular endothelial cells. *Am. J. Physiol. Cell Physiol.* 2009;296(3):C422-432. [PMID: 19118162]
15. [[VEGFR1 NB100-527](#)] Malgorzata, M., et al. Positive Feedback between Vascular Endothelial Growth Factor-A and Autotaxin in Ovarian Cancer Cells. *Mol. Cancer Res.* March 2008; 6(3). [PMID: 18337445]



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