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Anti-Hif-1α hydroxy P564 (RABBIT) Antibody

HIF-1-alpha hydroxy P564 Antibody
Catalog # ASR3734

Specification

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Product Information

Host	**Rabbit**
Conjugate	**Unconjugated**
Target Species	**Human**
Reactivity	**Human**
Clonality	**Polyclonal**
Application	**WB, IHC, E, I, LCI**
Application Note	**This antibody has been tested for use in ELISA and western blotting. Specific conditions for reactivity should be optimized by the end user. Expect a band approximately 110 kDa in size corresponding to HIF-1a hydroxyl P564 by western blotting in the appropriate cell lysate or extract.**
Physical State	**Liquid (sterile filtered)**
Buffer	**0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**
Immunogen	**This antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to a region surrounding the P564 of human HIF-1a.**
Preservative	**0.01% (w/v) Sodium Azide**

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Additional Information

Gene ID 3091

Other Names
3091

Purity
This antibody is directed against human HIF-1a hydroxyP564 and is specific for the hydroxylated form of the protein. Minimal reactivity occurs with the non-hydroxylated form of the protein. This antibody is specific for HIF-1a hydroxylated at P564. Minimal cross-reactivity occurs with non-hydroxylated HIF-1a. A BLAST analysis was used to suggest cross-reactivity with HIF-1a from human, monkey, mouse, rat, dog, bovine and Xenopus sources based on a 100% homology with the immunizing sequence. Reactivity against homologues from other sources is not known.

Storage Condition
Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Precautions Note
This product is for research use only and is not intended for therapeutic or diagnostic applications.

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Protein Information

Name HIF1A {ECO:0000303|PubMed:7539918, ECO:0000312|HGNC:HGNC:4910}

Function
Functions as a master transcriptional regulator of the adaptive response to hypoxia (PubMed:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:18658046, PubMed:20624928, PubMed:22009797, PubMed:30125331, PubMed:9887100). Under hypoxic conditions, activates the transcription of over 40 genes, including erythropoietin, glucose transporters, glycolytic enzymes, vascular endothelial growth factor, HILPDA, and other genes whose protein products increase oxygen delivery or facilitate metabolic adaptation to hypoxia (PubMed:11292861, PubMed:11566883, PubMed:15465032, PubMed:16973622, PubMed:17610843, PubMed:20624928, PubMed:22009797, PubMed:30125331, PubMed:9887100). Plays an essential role in embryonic vascularization, tumor angiogenesis and pathophysiology of ischemic disease (PubMed:22009797). Heterodimerizes with ARNT; heterodimer binds to core DNA sequence 5'-TACGTG-3' within the hypoxia response element (HRE) of target gene promoters (By similarity). Activation requires recruitment of transcriptional coactivators such as CREBBP and EP300 (PubMed:16543236, PubMed:9887100). Activity is enhanced by interaction with NCOA1 and/or NCOA2 (PubMed:10594042). Interaction with redox regulatory protein APEX1 seems to activate CTAD and potentiates activation by NCOA1 and CREBBP (PubMed:10202154, PubMed:10594042). Involved in the axonal distribution and transport of mitochondria in neurons during hypoxia (PubMed:19528298).

Cellular Location
Cytoplasm. Nucleus. Nucleus speckle {ECO:0000250|UniProtKB:Q61221}. Note=Colocalizes with HIF3A in the nucleus and speckles (By similarity). Cytoplasmic in normoxia, nuclear translocation in response to hypoxia (PubMed:9822602) {ECO:0000250|UniProtKB:Q61221, ECO:0000269|PubMed:9822602}

Tissue Location
Expressed in most tissues with highest levels in kidney and heart. Overexpressed in the majority

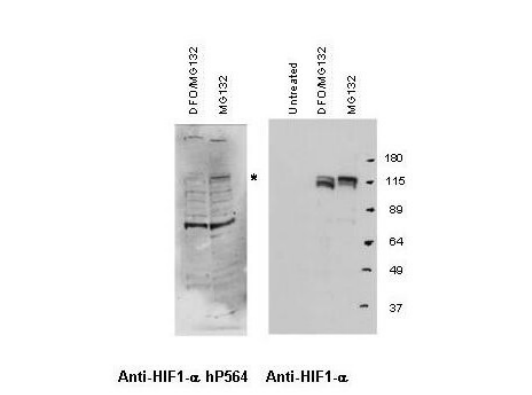
of common human cancers and their metastases, due to the presence of intratumoral hypoxia and as a result of mutations in genes encoding oncoproteins and tumor suppressors. A higher level expression seen in pituitary tumors as compared to the pituitary gland.

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Images



Western blot using Rockland's anti-HIF-1alpha HYDROXY P564 antibody shows detection (left panel) of hydroxylated HIF-1 alpha in nuclear extracts of A549 cells treated with MG132 (a proteosome inhibitor). Hydroxyproline is not recognized on HIF-1alpha when cells are first treated with DFO, a propyl hydroxylase inhibitor that prevents HIF hydroxylation. Control staining is shown (right panel) using conventional anti-HIF-1alpha. The asterisk marks a band approximately 110 kDa in size corresponding to HIF1-alpha. The primary antibody was used at a 1:1,000 dilution in 2% BLOTTO. Personal Communication, L. Neckers and O. Aprelikova, NCI, Bethesda, MD.

Anti-Hif-1α hydroxy P564 (RABBIT) Antibody - Background

This antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. Tumor hypoxia often directly correlates with aggressive phenotype, metastasis progression and resistance to chemotherapy. HIF-1 transcription factors are dramatically induced in hypoxic areas and regulate the expression of genes necessary for tumor adaptation to conditions of low oxygen. The stabilization of HIF-1a by hypoxia is critically dependent upon the hydroxylation of certain Proline residues that exist in the oxygen-dependent degradation domain of HIF-1a. HIF factors are now considered an important therapeutic target for cancer intervention. HIF-1a is useful to researchers interested in cell metabolism, cell survival, and angiogenesis.