

HIF1 beta Rabbit monoclonal antibody

Catalog: MB66437

Host: Rabbit

Reactivity: Human, Mouse, Rat, Hamster

Background:

Hypoxia-inducible factor 1 (HIF1) is a heterodimeric transcription factor that plays a critical role in the cellular response to hypoxia. The HIF1 complex consists of two subunits, HIF-1 α and HIF-1 β , which are basic helix-loop-helix proteins of the PAS (Per, ARNT, Sim) family. HIF1 regulates the transcription of a broad range of genes that facilitate responses to the hypoxic environment, including genes regulating angiogenesis, erythropoiesis, cell cycle, metabolism, and apoptosis. The widely expressed HIF-1 α is typically degraded rapidly in normoxic cells by the ubiquitin/proteasomal pathway. Under normoxic conditions, HIF-1 α is proline hydroxylated leading to a conformational change that promotes binding to the von Hippel-Lindau protein (VHL) E3 ligase complex; ubiquitination and proteasomal degradation follows. Both hypoxic conditions and chemical hydroxylase inhibitors (such as desferrioxamine and cobalt) inhibit HIF-1 α degradation and lead to its stabilization. In addition, HIF-1 α can be induced in an oxygen-independent manner by various cytokines through the PI3K-AKT-mTOR pathway.

HIF-1 β is also known as AhR nuclear translocator (ARNT) due to its ability to partner with the aryl hydrocarbon receptor (AhR) to form a heterodimeric transcription factor complex. Together with AhR, HIF-1 β plays an important role in xenobiotics metabolism. In addition, a chromosomal translocation leading to a TEL-ARNT fusion protein is associated with acute myeloblastic leukemia. Studies also found that ARNT/HIF-1 β expression levels decrease significantly in pancreatic islets from patients with type 2 diabetes, suggesting that HIF-1 β plays an important role in pancreatic β -cell function.

Product:

Liquid in 50mM Tris-Glycine (pH 7.4), 0.15M NaCl,

50% Glycerol, 0.01% Sodium azide and 0.05% BSA.

Molecular Weight:

~ 87 kDa

Swiss-Prot:

P27540

Purification&Purity:

The antibody was purified by immunogen affinity chromatography.

Applications:

WB (1/500 - 1/1000), IHC (1/50 - 1/100)

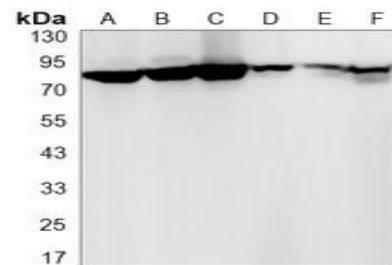
Storage&Stability:

Store at 4 °C short term. Aliquot and store at -20 °C long term. Avoid freeze-thaw cycles.

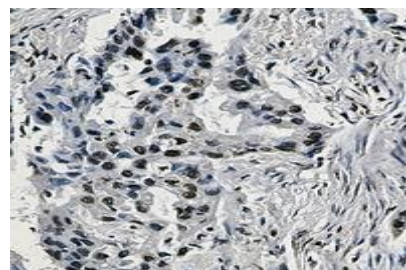
Specificity:

Recognizes endogenous levels of HIF1 beta protein.

DATA:



Western blot analysis of HIF1 beta expression in Raw264.7 (A), NIH3T3 (B), HeLa (C), CHOK1 (D), C6 (E), Ramos (F) whole cell lysates.



Immunohistochemical analysis of HIF1 beta staining in human lung cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate

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PRODUCT DATA SHEET

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buffer (pH 6.96). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then

counterstained with haematoxylin and mounted with DPX.

Note:

For research use only, not for use in diagnostic procedure.

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