

Product datasheet for **TA324092**

HIF1 beta (ARNT) Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	WB
Recommended Dilution:	WB: 1:500-2000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Immunogen:	Fusion protein corresponding to N terminal 260 amino acids of human aryl hydrocarbon receptor nuclear translocator
Formulation:	PBS pH7.3, 0.05% NaN ₃ , 50% glycerol
Concentration:	lot specific
Purification:	Antigen affinity purification
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Predicted Protein Size:	87 kDa
Gene Name:	aryl hydrocarbon receptor nuclear translocator
Database Link:	NP_001184254 Entrez Gene 11863 MouseEntrez Gene 25242 RatEntrez Gene 405 Human P27540



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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.

Synonyms:

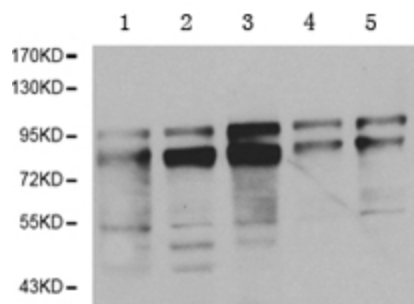
bHLHe2; HIF-1-beta; HIF-1beta; HIF1-beta; HIF1B; HIF1BETA; TANGO

Protein Families:

Druggable Genome, Transcription Factors

Protein Pathways:

Pathways in cancer, Renal cell carcinoma

Product images:

Predicted band size: 87 kDa. Positive control: HepG2, MCF7, NIH3T3, U2OS and Hela cell lysate. Recommended dilution: 1/500-2000. (Gel: 8%SDS-PAGE Lane 1: HepG2 cell lysate Lane 2: MCF7 cell lysate Lane 3: NIH3T3 cell lysate Lane 4: U2OS cell lysate Lane 5: Hela cell lysate Lysates: 40 ug per lane Primary antibody: 1/500 dilution Secondary antibody: Goat anti Rabbit IgG - H&L (HRP) at 1/10000 dilution Exposure time: 1 minute)