E90972

ARNTPolyclonal Antibody

Catalog Number: E90972
Amount: 100ul
Background: Hypoxia-inducible factor 1 (HIF1) is a heterodimeric transcription factor that plays a critical role in the cellular response to hypoxia (1). The HIF1 complex consists of two subunits, HIF-1α and HIF-1β, which are basic helix-loop-helix proteins of the PAS (Per, ARNT, Sim) family (2). 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-1α is typically degraded rapidly in normoxic cells by the ubiquitin/proteasomal pathway. Under normoxic conditions, HIF-1α is proline hydroxylated leading to a conformational change that promotes binding to the von Hippel Lindau protein (VLH) E3 ligase complex; ubiquitination and proteasomal degradation follows (3,4). Both hypoxic conditions and chemical hydroxylase inhibitors (such as desferrioxamine and cobalt) inhibit HIF-1α degradation and lead to its stabilization. In addition, HIF-1α can be induced in an oxygen-independent manner by various cytokines through the PI3K-AKT-mTOR pathway (5-7).HIF-1β 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 (8). Together with AhR, HIF-1β plays an important role in xenobiotics metabolism (8). In addition, a chromosomal translocation leading to a TEL-ARNT fusion protein is associated with acute myeloblastic leukemia (9). Studies also found that ARNT/HIF-1β expression levels decrease significantly in pancreatic islets from patients with type 2 diabetes, suggesting that HIF-1β plays an important role in pancreatic β-cell function (10).
Species: Rabbit
Isotype: IgG
Storage/Stability: Store at -20oC or -80oC. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.
Synonyms: ARNT;HIF-1beta;HIF1B;HIF1BETA;TANGO;bHLHe2 ;
Immunogen: Recombinant proteinof human ARNT
Purification: Affinity purification
Reactivity: H M R
Applications: WB IHC
Molecular Weight: 87kDa
Swiss-Prot No. : P27540
Gene ID: 405
References: 1. Sharp, F.R. and Bernaudin, M. (2004) Nat Rev Neurosci 5, 437-48. 2. Wang, G.L. et al. (1995) Proc Natl Acad Sci U S A 92, 5510-4. 3. Jaakkola, P. et al. (2001) Science 292, 468-72. 4. Maxwell, P.H. et al. (1999) Nature 399, 271-5. 5. Fukuda, R. et al. (2002) J Biol Chem 277, 38205-11. 6. Jiang, B.H. et al. (2001) Cell Growth Differ 12, 363-9. 7. Laughner, E. et al. (2001) Mol Cell Biol 21, 3995-4004. 8. Walisser, J.A. et al. (2004) Proc Natl Acad Sci U S A 101, 16677-82. 9. Salomon-Nguyen, F. et al. (2000) Proc Natl Acad Sci U S A 97, 6757-62. 10. Gunton, J.E. et al. (2005) Cell 122, 337-49.

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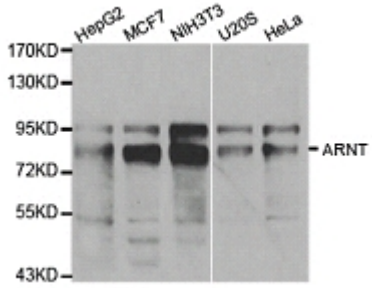
WB 1:500 - 1:2000

IHC 1:50- 1:200



Western blot analysis of extracts of various cell lines, using ARNT antibody.

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