

HIF-1 α (3C144): sc-71247

BACKGROUND

Cell growth and viability is compromised by oxygen deprivation (hypoxia). Hypoxia-inducible factors, including HIF-1 α , Arnt 1 (also designated HIF-1 β), EPAS-1 (also designated HIF-2 α) and HIF-3 α , induce glycolysis, erythropoiesis and angiogenesis in order to restore oxygen homeostasis. Hypoxia-inducible factors are members of the Per-Arnt-Sim (PAS) domain transcription factor family. In response to hypoxia, HIF-1 α is upregulated and forms a heterodimer with Arnt 1 to form the HIF-1 complex. The HIF-1 complex recognizes and binds to the hypoxia responsive element (HRE) of hypoxia-inducible genes, thereby activating transcription. Hypoxia-inducible expression of some genes, such as Glut-1, p53, p21 or Bcl-2, is HIF-1 α dependent, whereas expression of others, such as p27, GADD 153 or HO-1, is HIF-1 α independent. EPAS-1 and HIF-3 α have also been shown to form heterodimeric complexes with Arnt 1 in response to hypoxia.

CHROMOSOMAL LOCATION

Genetic locus: HIF1A (human) mapping to 14q23.2, Hif1a (mouse) mapping to 12 C3.

SOURCE

HIF-1 α (3C144) is a mouse monoclonal antibody epitope mapping within amino acids 329-530 of HIF-1 α of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HIF-1 α (3C144) is recommended for detection of HIF-1 α of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

HIF-1 α (3C144) is also recommended for detection of HIF-1 α in additional species, including bovine and porcine.

Suitable for use as control antibody for HIF-1 α siRNA (h): sc-35561, HIF-1 α siRNA (m): sc-35562, HIF-1 α shRNA Plasmid (h): sc-35561-SH, HIF-1 α shRNA Plasmid (m): sc-35562-SH, HIF-1 α shRNA (h) Lentiviral Particles: sc-35561-V and HIF-1 α shRNA (m) Lentiviral Particles: sc-35562-V.

Molecular Weight of HIF-1 α : 132 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or MDA-MB-231 cell lysate: sc-2232.

RESEARCH USE

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

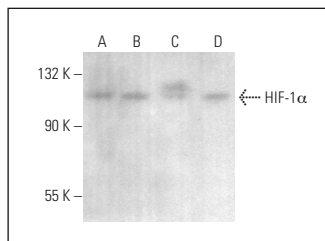
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



HIF-1 α (3C144): sc-71247. Western blot analysis of HIF-1 α expression in Jurkat (A), K-562 (B), MDA-MB-231 (C) and RAW 264.7 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Zhao, Y., et al. 2012. Altered angiogenesis gene expression in gastrointestinal stromal tumors: potential use in diagnosis, outcome prediction, and treatment. *Neoplasia* 59: 384-392.
- Kong, F., et al. 2013. Differential expression of adenylate kinase 4 in the context of disparate stress response strategies of HEK293 and Hep G2 cells. *Arch. Biochem. Biophys.* 533: 11-17.
- Bhatnagar, I. and Kim, S.K. 2015. Gliotoxin from *Aspergillus fumigatus* reverses epithelial to mesenchymal transition: implications in renal fibrosis. *Int. J. Med. Microbiol.* 305: 11-19.
- Wang, P., et al. 2016. Time-dependent homeostasis between glucose uptake and consumption in astrocytes exposed to CoCl₂ treatment. *Mol. Med. Rep.* 13: 2909-2917.
- Liu, X., et al. 2017. Hypothermia inhibits the proliferation of bone marrow-derived mesenchymal stem cells and increases tolerance to hypoxia by enhancing SUMOylation. *Int. J. Mol. Med.* 40: 1631-1638.
- Wang, W., et al. 2018. E-cadherin is downregulated by microenvironmental changes in pancreatic cancer and induces EMT. *Oncol. Rep.* 40: 1641-1649.
- An, Y., et al. 2019. Exosomes from adipose-derived stem cells (ADSCs) overexpressing miR-21 promote vascularization of endothelial cells. *Sci. Rep.* 9: 12861.
- Belisario, D.C., et al. 2020. ABCA1/ABCB1 ratio determines chemo- and immune-sensitivity in human osteosarcoma. *Cells* 9: 647.
- Wu, X., et al. 2020. Histone demethylase KDM4C activates HIF-1 α /VEGFA signaling through the costimulatory factor Stat3 in NSCLC. *Am. J. Cancer Res.* 10: 491-506.

CONJUGATES

See **HIF-1 α (28b): sc-13515** for HIF-1 α antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor[®] 488, 546, 594, 647, 680 and 790.