

HIF-1 α (Y-15): sc-12542

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 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of HIF-1 α of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-12542 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-12542 X, 200 μ g/0.1 ml.

APPLICATIONS

HIF-1 α (Y-15) 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), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

HIF-1 α (Y-15) is also recommended for detection of HIF-1 α in additional species, including equine, canine, 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.

HIF-1 α (Y-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

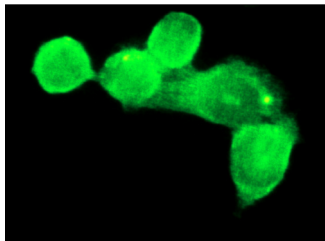
Molecular Weight of HIF-1 α : 132 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or HeLa + CoCl₂ cell lysate: sc-24679.

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 (Y-15): sc-12542. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Hough, R.B., et al. 2004. Preferential transcription of rabbit ALDH1A1 in the cornea: implication of hypoxia-related pathways. *Mol. Cell. Biol.* 24: 1324-1340.
- Xue, Y., et al. 2006. Role of Rac1 and Cdc42 in hypoxia induced p53 and von Hippel-Lindau suppression and HIF1 α activation. *Int. J. Cancer* 118: 2965-2972.
- Ning, X.H., et al. 2007. Short-cycle hypoxia in the intact heart: hypoxia-inducible factor 1 α signaling and the relationship to injury threshold. *Am. J. Physiol. Heart Circ. Physiol.* 292: H333-H341.
- Wen, W., et al. 2010. Suppression of cyclin D1 by hypoxia-inducible factor-1 via direct mechanism inhibits the proliferation and 5-fluorouracil-induced apoptosis of A549 cells. *Cancer Res.* 70: 2010-2019.
- Woo, S.K., et al. 2012. Sequential activation of hypoxia-inducible factor 1 and specificity protein 1 is required for hypoxia-induced transcriptional stimulation of Abcc8. *J. Cereb. Blood Flow Metab.* 32: 525-536.
- Sahin, H., et al. 2012. Impaired biomechanical properties correlate with neoangiogenesis as well as VEGF and MMP-3 expression during rat patellar tendon healing. *J. Orthop. Res.* 30: 1952-1957.
- Deshiere, A., et al. 2012. Unbalanced expression of CK2 kinase subunits is sufficient to drive epithelial-to-mesenchymal transition by Snail1 induction. *Oncogene* 32: 1373-1383.

RESEARCH USE

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



Try **HIF-1 α (28b): sc-13515** or **HIF-1 α (H1 α 67): sc-53546**, our highly recommended monoclonal alternatives to HIF-1 α (Y-15). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **HIF-1 α (28b): sc-13515**.