

HIF-3 α (M-20): sc-8718

BACKGROUND

Cell growth and viability is compromised by oxygen deprivation (hypoxia). Hypoxia-inducible factors, including HIF-1 α , HIF-1 β (also designated Arnt 1), 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.

REFERENCES

1. Wang, G.L., et al. 1995. Hypoxia-inducible factor 1 is a basic-helix-loop-helix-PAS heterodimer regulated by cellular O₂ tension. *Proc. Natl. Acad. Sci. USA* 92: 5510-5514.
2. Tian, H., et al. 1997. Endothelial PAS domain protein 1 (EPAS1), a transcription factor selectively expressed in endothelial cells. *Genes Dev.* 11: 72-82.
3. Luo, G., et al. 1997. Molecular characterization of the murine HIF-1 α locus. *Gene Expr.* 6: 287-299.
4. Carmeliet, P., et al. 1998. Role of HIF-1 α in hypoxia-mediated apoptosis, cell proliferation and tumour angiogenesis. *Nature* 394: 485-490.
5. Gu, Y.Z., et al. 1998. Molecular characterization and chromosomal localization of a third α -class hypoxia inducible factor subunit, HIF-3 α . *Gene Expr.* 7: 205-213.
6. Wood, S.M., et al. 1998. Selection and analysis of a mutant cell line defective in the hypoxia-inducible factor-1 α -subunit (HIF-1 α). Characterization of HIF-1 α -dependent and -independent hypoxia-inducible gene expression. *J. Biol. Chem.* 273: 8360-8368.

CHROMOSOMAL LOCATION

Genetic locus: Hif3a (mouse) mapping to 7 A2.

SOURCE

HIF-3 α (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of HIF-3 α of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-8718 X, 200 μ g/0.1 ml.

Blocking peptide available for competition studies, sc-8718 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

HIF-3 α (M-20) is recommended for detection of HIF-3 α of mouse and rat 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).

Suitable for use as control antibody for HIF-3 α siRNA (m): sc-38168, HIF-3 α shRNA Plasmid (m): sc-38168-SH and HIF-3 α shRNA (m) Lentiviral Particles: sc-38168-V.

HIF-3 α (M-20) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of HIF-3 α : 73 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. 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.
2. Lam, S.Y., et al. 2006. Expression of HIF-2 α and HIF-3 α in the rat carotid body in chronic hypoxia. *Adv. Exp. Med. Biol.* 580: 29-36.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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



Try **HIF-3 α (E-8): sc-390933** or **HIF-3 α (D-7): sc-390769**, our highly recommended monoclonal alternatives to HIF-3 α (M-20).