SANTA CRUZ BIOTECHNOLOGY, INC.

EPAS-1 (C-16): sc-8712

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Cell growth and viability is compromised by oxygen deprivation (hypoxia). Hypoxia-inducible factors, including HIF-1α, HIF-1β (also designated Arnt 1), EPAS-1 (also designated HIF-2α) and HIF-3α, 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-1α 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-1α dependent, whereas expression of others, such as p27, GADD 153 or HO-1, is HIF-1α independent. EPAS-1 and HIF-3α 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 O_2 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.

CHROMOSOMAL LOCATION

Genetic locus: EPAS1 (human) mapping to 2p21; Epas1 (mouse) mapping to 17 E4.

SOURCE

EPAS-1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of EPAS-1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-8712 P, (100 µg 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-8712 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

EPAS-1 (C-16) is recommended for detection of EPAS-1 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).

EPAS-1 (C-16) is also recommended for detection of EPAS-1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for EPAS-1 siRNA (h): sc-35316, EPAS-1 siRNA (m): sc-35317, EPAS-1 shRNA Plasmid (h): sc-35316-SH, EPAS-1 shRNA Plasmid (m): sc-35317-SH, EPAS-1 shRNA (h) Lentiviral Particles: sc-35316-V and EPAS-1 shRNA (m) Lentiviral Particles: sc-35317-V.

EPAS-1 (C-16) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of EPAS-1: 115 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa + CoCl2 cell lysate: sc-24679 or HT-1080 whole cell lysate: sc-364183.

SELECT PRODUCT CITATIONS

1. Jesmin, S., et al. 2002. *In vivo* estrogen manipulations on coronary capillary network and angiogenic molecule expression in middle-aged female rats. Arterioscler. Thromb. Vasc. Biol. 22: 1591-1597.
2. Staller, P., et al. 2003. Chemokine receptor CXCR4 downregulated by von Hippel-Lindau tumour suppressor pVHL. Nature 425: 307-311.
3. 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.
4. Roux, J.C., et al. 2005. Developmental changes in HIF transcription factor in carotid body: relevance for O_2 sensing by chemoreceptors. Pediatr. Res. 58: 53-57.
5. Pollard, P., et al. 2005. Evidence of increased microvessel density and activation of the hypoxia pathway in tumours from the hereditary leiomyomatosis and renal cell cancer syndrome. J. Pathol. 205: 41-49.
6. Lam, S.Y., et al. 2006. Expression of HIF-2α and HIF-3α in the rat carotid body in chronic hypoxia. Adv. Exp. Med. Biol. 580: 29-36; discussion 351-359.

RESEARCH USE

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