SANTA CRUZ BIOTECHNOLOGY, INC.

EPAS-1 (190b): sc-13596

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. Luo, G., et al. 1997. Molecular characterization of the murine Hif-1 α locus. Gene Expr. 6: 287-299.
3. Tian, H., et al. 1997. Endothelial PAS domain protein 1 (EPAS-1), a transcription factor selectively expressed in endothelial cells. Genes Dev. 11: 72-82.

CHROMOSOMAL LOCATION

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

SOURCE

EPAS-1 (190b) is a mouse monoclonal antibody raised against recombinant EPAS-1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain 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-13596 X, 200 µg/0.1 ml.

EPAS-1 (190b) is available conjugated to agarose (sc-13596 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-13596 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13596 PE), fluorescein (sc-13596 FITC), Alexa Fluor® 488 (sc-13596 AF488), Alexa Fluor® 546 (sc-13596 AF546), Alexa Fluor® 594 (sc-13596 AF594) or Alexa Fluor® 647 (sc-13596 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13596 AF680) or Alexa Fluor® 790 (sc-13596 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

PAS-1 (190b) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

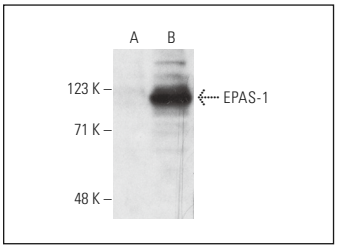
Suitable for use as control antibody for EPAS-1 siRNA (h): sc-35316, EPAS-1 siRNA (m): sc-35317, EPAS-1 siRNA (r): sc-270047, EPAS-1 shRNA Plasmid (h): sc-35316-SH, EPAS-1 shRNA Plasmid (m): sc-35317-SH, EPAS-1 shRNA Plasmid (r): sc-270047-SH, EPAS-1 shRNA (h) Lentiviral Particles: sc-35316-V, EPAS-1 shRNA (m) Lentiviral Particles: sc-35317-V and EPAS-1 shRNA (r) Lentiviral Particles: sc-270047-V.

EPAS-1 (190b) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

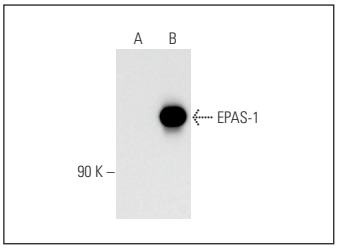
Molecular Weight of EPAS-1: 115 kDa.

Positive Controls: EPAS-1 (m): 293T Lysate: sc-120061, A549 cell lysate: sc-2413 or HeLa + $CoCl_2$ cell lysate: sc-24679.

DATA



EPAS-1 (190b): sc-13596. Western blot analysis of EPAS-1 expression in untreated (**A**) and $CoCl_2$-induced (**B**) HeLa whole cell lysate.



EPAS-1 (190b): sc-13596. Western blot analysis of EPAS-1 expression in non-transfected: sc-117752 (**A**) and mouse EPAS-1 transfected: sc-120061 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Uchida, T., et al. 2004. Prolonged hypoxia differentially regulates hypoxia-inducible factor (HIF)-1 and HIF-2 expression in lung epithelial cells. J. Biol. Chem. 279: 14871-14878.
2. Yang, S.L., et al. 2018. Hepatitis B virus upregulates GP73 expression by activating the HIF-2α signaling pathway. Oncol. Lett. 15: 5264-5270.
3. Cui, D., et al. 2019. Hypoxia-induced disruption of neural vascular barrier is mediated by the intracellular induction of Fe(II) ion. Exp. Cell Res. 379: 166-171.
4. Kim, H., et al. 2020. A system-level approach identifies HIF-2α as a critical regulator of chondrosarcoma progression. Nat. Commun. 11: 5023.

RESEARCH USE

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