

FIH-1 (H-229): sc-48813

BACKGROUND

Factor inhibiting HIF-1 (FIH-1) exists as a homodimer and binds to HIF-1 α . Specifically, FIH-1 operates as an asparaginylhydroxylase. FIH-1 catalyzes the hydroxylation of the β -carbon of asparagine residue 803 within the C-terminal transactivation domain of HIF-1 α . This hydroxylation event blocks the association of HIF-1 α with coactivators. FIH-1 also binds to von Hippel-Lindau (VHL) tumor suppressor protein, which represses transcriptional activity of HIF-1 α . In transiently transfected human osteosarcoma cells, FIH-1 localizes to the cytoplasm. The structure of FIH-1 includes a jellyroll-like β -barrel containing ferrous-binding triad residues. The gene encoding human FIH-1 maps to chromosome 10q24.31.

REFERENCES

1. Mahon, P.C., et al. 2001. FIH-1: a novel protein that interacts with HIF-1 α and VHL to mediate repression of HIF-1 transcriptional activity. *Genes Dev.* 15: 2675-2686.
2. Dann, C.E., 3rd., et al. 2002. Structure of factor-inhibiting hypoxia-inducible factor 1: An asparaginylhydroxylase involved in the hypoxic response pathway. *Proc. Natl. Acad. Sci. USA* 99: 15351-15356.
3. Lando, D., et al. 2002. FIH-1 is an asparaginylhydroxylase enzyme that regulates the transcriptional activity of hypoxia-inducible factor. *Genes Dev.* 16: 1466-1471.
4. McNeill, L.A., et al. 2002. Hypoxia-inducible factor asparaginylhydroxylase (FIH-1) catalyzes hydroxylation at the β -carbon of asparagine 803. *Biochem. J.* 367: 571-575.
5. Metzén, E., et al. 2003. Intracellular localisation of human HIF-1 α hydroxylases: implications for oxygen sensing. *J. Cell Sci.* 116: 1319-1326.

CHROMOSOMAL LOCATION

Genetic locus: HIF1AN (human) mapping to 10q24.31; Hif1an (mouse) mapping to 19 C3.

SOURCE

FIH-1 (H-229) is a rabbit polyclonal antibody raised against amino acids 15-243 mapping within an internal region of FIH-1 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.

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.

APPLICATIONS

FIH-1 (H-229) is recommended for detection of FIH-1 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)], 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).

FIH-1 (H-229) is also recommended for detection of FIH-1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for FIH-1 siRNA (h): sc-37885, FIH-1 siRNA (m): sc-37886, FIH-1 shRNA Plasmid (h): sc-37885-SH, FIH-1 shRNA Plasmid (m): sc-37886-SH, FIH-1 shRNA (h) Lentiviral Particles: sc-37885-V and FIH-1 shRNA (m) Lentiviral Particles: sc-37886-V.

Molecular Weight of FIH-1: 40 kDa.

Positive Controls: Sol8 nuclear extract: sc-2157 or rat skeletal muscle extract: sc-364810.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Seo, H.W., et al. 2009. Transcriptional activation of hypoxia-inducible factor-1 α by HDAC4 and HDAC5 involves differential recruitment of p300 and FIH-1. *FEBS Lett.* 583: 55-60.
2. Martínez-Romero, R., et al. 2009. Poly(ADP-ribose) polymerase-1 modulation of *in vivo* response of brain hypoxia-inducible factor-1 to hypoxia/reoxygenation is mediated by nitric oxide and factor inhibiting HIF. *J. Neurochem.* 111: 150-159.
3. Shang, J., et al. 2012. Expressions of hypoxic stress sensor proteins after transient cerebral ischemia in mice. *J. Neurosci. Res.* 90: 648-655.
4. Peng, H., et al. 2014. FIH-1 disrupts an LRRK1/EGFR complex to positively regulate keratinocyte migration. *Am. J. Pathol.* 184: 3262-3271.


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Try **FIH-1 (A-5): sc-271780** or **FIH-1 (F-11): sc-365128**, our highly recommended monoclonal alternatives to FIH-1 (H-229).