

FHL-1 (F-12): sc-23176

BACKGROUND

The four-and-a-half-LIM domain (FHL) proteins include FHL-1 (SLIM1), FHL-2 (SLIM3), FHL-3 (SLIM2) and FHL-4. The signature "half-domain", a single zinc finger domain located in the N-terminal region, differentiates FHLs from other LIM-only proteins, which have numbers of zinc fingers. Specific combinations of FHL proteins elicit selective activation of both CREB and CREM. Skeletal and cardiac muscle express FHL-1 in high levels as compared to the low level of expression in smooth muscle of the colon, small intestine and prostate. FHL-1 localizes to the cytosol of myoblasts, myotubes, and differentiated myocytes. FHL-2 is also located in cardiac and skeletal muscle, as well as in placenta and ovary tissues. FHL-3 is found in skeletal muscle, but absent in cardiac muscle. FHL-4 is expressed exclusively by the seminiferous epithelium of the testis, which suggests that FHL-4 is involved in spermatogenesis. The genetic loci for FHLs vary considerably despite similar amino acid sequences among the FHL group.

REFERENCES

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- Chan, K.K., et al. 1998. Molecular cloning and characterization of FHL-2, a novel LIM domain protein preferentially expressed in human heart. *Gene* 210: 345-350.
- Lee, S.M., et al. 1998. Chromosomal mapping, tissue distribution and cDNA sequence of four-and-a-half LIM domain protein 1 (FHL-1). *Gene* 216: 163-170.
- Lee, S.M., et al. 1998. Chromosomal mapping of a skeletal muscle specific LIM-only protein FHL-3 to the distal end of the short arm of human chromosome 1. *Somat. Cell. Mol. Genet.* 24: 197-202.
- Morgan, M.J., et al. 1999. The LIM proteins FHL-1 and FHL-3 are expressed differently in skeletal muscle. *Biochem. Biophys. Res. Commun.* 255: 245-250.
- Morgan, M.J., et al. 1999. The fourth member of the FHL family of LIM proteins is expressed exclusively in the testis. *Biochem. Biophys. Res. Commun.* 255: 251-255.
- Greene, W.K., et al. 1999. Genomic structure, tissue expression and chromosomal location of the LIM-only gene, SLIM1. *Gene* 232: 203-207.

CHROMOSOMAL LOCATION

Genetic locus: FHL1 (human) mapping to Xq26.3; Fhl1 (mouse) mapping to X A5.

SOURCE

FHL-1 (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FHL-1 of human origin.

STORAGE

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

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-23176 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FHL-1 (F-12) is recommended for detection of FHL-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).

FHL-1 (F-12) is also recommended for detection of FHL-1 in additional species, including porcine.

Suitable for use as control antibody for FHL-1 siRNA (h): sc-37889, FHL-1 siRNA (m): sc-37890, FHL-1 shRNA Plasmid (h): sc-37889-SH, FHL-1 shRNA Plasmid (m): sc-37890-SH, FHL-1 shRNA (h) Lentiviral Particles: sc-37889-V and FHL-1 shRNA (m) Lentiviral Particles: sc-37890-V.

Molecular Weight of FHL-1B/FHL-1A/FHL-1C isoforms: 36/32/22 kDa.

Positive Controls: mouse testis extract: sc-2405 or RAW 264.7 whole cell lysate: sc-2211.

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

- Wang, L., et al. 2013. Identification of an FHL1 protein complex containing γ -actin and non-muscle myosin IIB by analysis of protein-protein interactions. *PLoS ONE* 8: e79551.

RESEARCH USE

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



Try **FHL-1 (H-4): sc-374246** or **FHL-1 (L9-42): sc-101046**, our highly recommended monoclonal alternatives to FHL-1 (F-12).