

## FHL-1 (L9-42): sc-101046

### 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

- Morgan, M.J., et al. 1996. SLIM defines a novel family of LIM-proteins expressed in skeletal muscle. *Biochem. Biophys. Res. Commun.* 225: 632-638.
- 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.
- Fimia, G.M., et al. 2000. A family of LIM-only transcriptional coactivators: tissue-specific expression and selective activation of CREB and CREM. *Mol. Cell Biol.* 20: 8613-8622.

### CHROMOSOMAL LOCATION

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

### SOURCE

FHL-1 (L9-42) is a mouse monoclonal antibody raised against recombinant FHL-1 of human origin.

### PRODUCT

Each vial contains 100 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

FHL-1 (L9-42) 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), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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-1A: 32 kDa.

Molecular Weight of FHL-1B: 36 kDa.

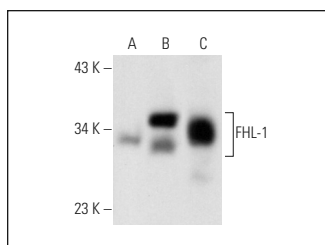
Molecular Weight of FHL-1C: 22 kDa.

Positive Controls: mouse testis extract: sc-2405, RAW 264.7 whole cell lysate: sc-2211 or FHL-1 (h2): 293T Lysate: sc-177229.

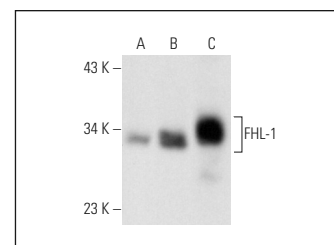
### RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

### DATA



FHL-1 (L9-42): sc-101046. Western blot analysis of FHL-1 expression in non-transfected: sc-117752 (A) and human FHL-1 transfected: sc-177228 (B) 293T whole cell lysates and mouse testis tissue extract (C).



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### 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.