

FHL-2 (F4B2-B11): sc-52667

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.

CHROMOSOMAL LOCATION

Genetic locus: FHL2 (human) mapping to 2q12.1; Fhl2 (mouse) mapping to 1 B.

SOURCE

FHL-2 (F4B2-B11) is a mouse monoclonal antibody raised against FHL-2 of human origin.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

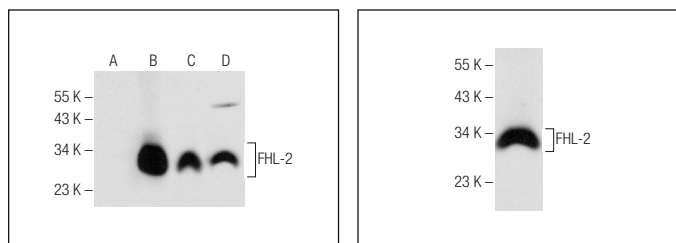
FHL-2 (F4B2-B11) is recommended for detection of FHL-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for FHL-2 siRNA (h): sc-37891, FHL-2 siRNA (m): sc-37892, FHL-2 shRNA Plasmid (h): sc-37891-SH, FHL-2 shRNA Plasmid (m): sc-37892-SH, FHL-2 shRNA (h) Lentiviral Particles: sc-37891-V and FHL-2 shRNA (m) Lentiviral Particles: sc-37892-V.

Molecular Weight of FHL-2: 32 kDa.

Positive Controls: FHL-2 (m): 293T Lysate: sc-120254, HT-1080 whole cell lysate: sc-364183 or T-47D cell lysate: sc-2293.

DATA



FHL-2 (F4B2-B11): sc-52667. Western blot analysis of FHL-2 expression in non-transfected 293T: sc-117752 (A), mouse FHL-2 transfected 293T: sc-120254 (B), T-47D (C) and HT-1080 (D) whole cell lysates.

FHL-2 (F4B2-B11): sc-52667. Western blot analysis of FHL-2 expression in MG-63 whole cell lysate.

SELECT PRODUCT CITATIONS

- Dasgupta, T., et al. 2013. Gene expression analyses implicate an alternative splicing program in regulating contractile gene expression and serum response factor activity in mice. *PLoS ONE* 8: e56590.
- Boateng, L.R., et al. 2016. Mammalian Actin-binding protein-1/Hip-55 interacts with FHL2 and negatively regulates cell invasion. *J. Biol. Chem.* 291: 13987-13998.
- Kullmann, M.K., et al. 2020. The CDK inhibitor p57^{Kip2} enhances the activity of the transcriptional coactivator FHL2. *Sci. Rep.* 10: 7140.
- Kullmann, M.K., et al. 2021. Stimulation of c-Jun/AP-1-activity by the cell cycle inhibitor p57^{Kip2}. *Front. Cell Dev. Biol.* 9: 664609.
- Zhu, Y., et al. 2022. MiR-377 inhibits proliferation and differentiation of bovine skeletal muscle satellite cells by targeting FHL2. *Genes* 13: 947.

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.