

SPFH1 (A-7): sc-514820

BACKGROUND

SPFH1 (stomatin-prohibitin-flotillin-HflC/K domain-containing protein 1), also known as ERLIN1 (ER lipid raft associated 1), KE04 or KE04, is a 346 amino acid endoplasmic reticulum (ER) membrane protein that belongs to the band 7/ mec-2 family and forms a heteromeric complex with SPFH2. The SPFH1/SPFH2 complex is a ring-shaped complex that mediates the ER-associated degradation (ERAD) of inositol 1,4,5-trisphosphate receptors (IP3Rs). SPFH1 is believed to be a component of lipid rafts and is expressed in the heart, placenta, liver, kidney, pancreas, prostate, testis, ovary and small intestine. The SPFH1 gene maps to human chromosome 10q24.31 and contains four transcripts. Human chromosome 10 comprises over 131 million base pairs which represent 99.4% of the euchromatic DNA, and includes one megabase of heterochromatic sequence within the pericentromeric region of the short and long arm of the chromosome. 1,357 genes are present, including 816 that are protein coding, and 430 that are pseudogenes.

REFERENCES

- Li, N., et al. 2000. Identification and characterization of a novel gene KE04 differentially expressed by activated human dendritic cells. *Biochem. Biophys. Res. Commun.* 279: 487-493.
- Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. *Nature* 429: 375-381.

CHROMOSOMAL LOCATION

Genetic locus: ERLIN1 (human) mapping to 10q24.31; Erlin1 (mouse) mapping to 19 C3.

SOURCE

SPFH1 (A-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 250-277 within an internal region of SPFH1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SPFH1 (A-7) is available conjugated to agarose (sc-514820 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514820 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514820 PE), fluorescein (sc-514820 FITC), Alexa Fluor® 488 (sc-514820 AF488), Alexa Fluor® 546 (sc-514820 AF546), Alexa Fluor® 594 (sc-514820 AF594) or Alexa Fluor® 647 (sc-514820 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514820 AF680) or Alexa Fluor® 790 (sc-514820 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514820 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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RESEARCH USE

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

APPLICATIONS

SPFH1 (A-7) is recommended for detection of SPFH1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SPFH1 siRNA (h): sc-90434, SPFH1 siRNA (m): sc-153752, SPFH1 shRNA Plasmid (h): sc-90434-SH, SPFH1 shRNA Plasmid (m): sc-153752-SH, SPFH1 shRNA (h) Lentiviral Particles: sc-90434-V and SPFH1 shRNA (m) Lentiviral Particles: sc-153752-V.

Molecular Weight of SPFH1: 39 kDa.

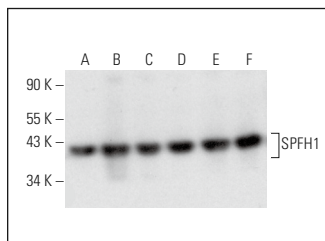
Positive Controls: Hep G2 cell lysate: sc-2227, RT-4 whole cell lysate: sc-364257 or A549 cell lysate: sc-2413.

RECOMMENDED SUPPORT REAGENTS

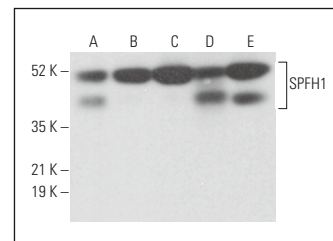
To ensure optimal results, the following support reagents are recommended:

- 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.
- Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).
- Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



SPFH1 (A-7): sc-514820. Western blot analysis of SPFH1 expression in NIH/3T3 (A), Hep G2 (B), A549 (C), RT-4 (D), U-251-MG (E) and ES-2 (F) whole cell lysates.



SPFH1 (A-7): sc-514820. Western blot analysis of SPFH1 expression in 3T3-L1 (A), RAW 264.7 (B) and c4 (C) whole cell lysates and rat kidney (D) and rat liver (E) tissue extracts.

SELECT PRODUCT CITATIONS

- Manganelli, V., et al. 2021. Raft-like lipid microdomains drive autophagy initiation via AMBRA1-ERLIN1 molecular association within MAMs. *Autophagy* 17: 2528-2548.
- Steinle, H., et al. 2021. 14-3-3 and erlin proteins differentially interact with RIPK2 complexes. *J. Cell Sci.* 134: jcs258137.

STORAGE

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