

MACF1-4 (D-10): sc-377534

BACKGROUND

MACF1-4 (microtubule-Actin cross-linking factor 1, isoform 4) is a 5,327 amino acid protein that is encoded by the human gene MACF1. MACF1-4 belongs to the plakin or cytolinker family and contains one Actin-binding domain, 2 CH (calponin-homology) domains, 2 EF-hand domains, 19 plectin repeats and 37 spectrin repeats. MACF1-4 is an F-Actin-binding protein which may play a role in cross-linking cytoskeletal proteins by binding intermediate filaments to the N-terminal plectin repeats and microtubules to the C-terminus. The spectrin repeats, an important feature found in many proteins involved in cytoskeletal structure, forms a three helix bundle with the second helix (with proline interrupts in some sequences). MACF1-4 is a cytoplasmic protein expressed mainly in heart, lung, pituitary and placenta; however, it is not found in brain, kidney, liver, pancreas or skeletal muscle.

REFERENCES

1. Kakinuma, T., Ichikawa, H., Tsukada, Y., Nakamura, T. and Toh, B.H. 2004. Interaction between p230 and MACF1 is associated with transport of a glycosyl phosphatidyl inositol-anchored protein from the Golgi to the cell periphery. *Exp. Cell Res.* 298: 388-398.
2. Lin, C.M., Chen, H.J., Leung, C.L., Parry, D.A. and Liem, R.K. 2005. Microtubule Actin crosslinking factor 1b: a novel plakin that localizes to the Golgi complex. *J. Cell Sci.* 118: 3727-3738.
3. Chen, H.J., Lin, C.M., Lin, C.S., Perez-Olle, R., Leung, C.L. and Liem, R.K. 2006. The role of microtubule Actin cross-linking factor 1 (MACF1) in the Wnt signaling pathway. *Genes Dev.* 20: 1933-1945.
4. Trinidad, J.C., Specht, C.G., Thalhammer, A., Schoepfer, R. and Burlingame, A.L. 2006. Comprehensive identification of phosphorylation sites in post-synaptic density preparations. *Mol. Cell. Proteomics* 5: 914-922.

CHROMOSOMAL LOCATION

Genetic locus: MACF1 (human) mapping to 1p34.3.

SOURCE

MACF1-4 (D-10) is a mouse monoclonal antibody raised against amino acids 1561-1780 mapping within an internal region of MACF1, isoform 4 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.

MACF1-4 (D-10) is available conjugated to agarose (sc-377534 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377534 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377534 PE), fluorescein (sc-377534 FITC), Alexa Fluor® 488 (sc-377534 AF488), Alexa Fluor® 546 (sc-377534 AF546), Alexa Fluor® 594 (sc-377534 AF594) or Alexa Fluor® 647 (sc-377534 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377534 AF680) or Alexa Fluor® 790 (sc-377534 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

MACF1-4 (D-10) is recommended for detection of MACF1 isoform 4 of 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 MACF1 siRNA (h): sc-75724, MACF1 shRNA Plasmid (h): sc-75724-SH and MACF1 shRNA (h) Lentiviral Particles: sc-75724-V.

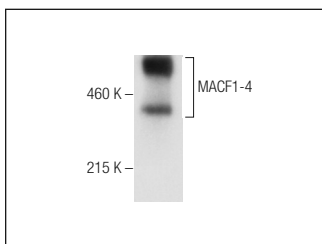
Molecular Weight of MACF1-4: 671 kDa.

Positive Controls: human lung extract: sc-363767.

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). 3) 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



MACF1-4 (D-10): sc-377534. Western blot analysis of MACF1-4 expression in human lung tissue extract.

SELECT PRODUCT CITATIONS

1. Bonner, K., Borlay, D., Kutten, O. and Quick, Q.A. 2020. Inhibition of the spectraplakin protein microtubule Actin crosslinking factor 1 sensitizes glioblastomas to radiation. *Brain Tumor Res. Treat.* 8: 43-52.

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.