

MACF1-4 (N-20): sc-82662

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.
5. Dai, J., Jin, W.H., Sheng, Q.H., Shieh, C.H., Wu, J.R. and Zeng, R. 2007. Protein phosphorylation and expression profiling by Yin-yang multidimensional liquid chromatography (Yin-yang MDLC) mass spectrometry. *J. Proteome Res.* 6: 250-262.
6. Munton, R.P., Tweedie-Cullen, R., Livingstone-Zatchej, M., Weinandy, F., Waidelich, M., Longo, D., Gehrig, P., Potthast, F., Rutishauser, D., Gerrits, B., Panse, C., Schlapbach, R. and Mansuy, I.M. 2007. Qualitative and quantitative analyses of protein phosphorylation in naive and stimulated mouse synaptosomal preparations. *Mol. Cell. Proteomics* 6: 283-293.
7. Villen, J., Beausoleil, S.A., Gerber, S.A. and Gygi, S.P. 2007. Large-scale phosphorylation analysis of mouse liver. *Proc. Natl. Acad. Sci. USA* 104: 1488-1493.

CHROMOSOMAL LOCATION

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

SOURCE

MACF1-4 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of MACF1 of human origin.

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-82662 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

MACF1-4 (N-20) is recommended for detection of MACF1, isoform 4 of 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); non cross-reactive with isoforms MACF1-1, MACF1-2, or MACF1-5.

MACF1-4 (N-20) is also recommended for detection of MACF1, isoform 4 in additional species, including equine and canine.

Molecular Weight of MACF1-4: 671 kDa.

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.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **MACF1-4 (D-10): sc-377534**, our highly recommended monoclonal alternative to MACF1-4 (N-20).