

# MACF1 (A-3): sc-377532

## BACKGROUND

MACF1 (microtubule-Actin cross-linking factor 1) is a 5,327 amino acid protein that is encoded by the human gene MACF1. MACF1 belongs to the plakin or cytolinker family and contains one Actin-binding domain, 2 CH (calponin-homology) domains, 2 EF-hand domains, one SH3 domain and 37 spectrin repeats. MACF1 is an F-Actin-binding protein which may play a role in cross-linking Actin to other cytoskeletal proteins and also binds to microtubules. 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 is a cytoplasmic protein expressed mainly in lung, brain, spinal cord, skeletal and cardiac muscle, and skin.

## CHROMOSOMAL LOCATION

Genetic locus: Macf1 (mouse) mapping to 4 D2.2.

## SOURCE

MACF1 (A-3) is a mouse monoclonal antibody raised against amino acids 1997-2240 mapping within an internal region of MACF1 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MACF1 (A-3) is available conjugated to agarose (sc-377532 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377532 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377532 PE), fluorescein (sc-377532 FITC), Alexa Fluor® 488 (sc-377532 AF488), Alexa Fluor® 546 (sc-377532 AF546), Alexa Fluor® 594 (sc-377532 AF594) or Alexa Fluor® 647 (sc-377532 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377532 AF680) or Alexa Fluor® 790 (sc-377532 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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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.

## APPLICATIONS

MACF1 (A-3) is recommended for detection of MACF1 of mouse and rat 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 (m): sc-75725, MACF1 shRNA Plasmid (m): sc-75725-SH and MACF1 shRNA (m) Lentiviral Particles: sc-75725-V.

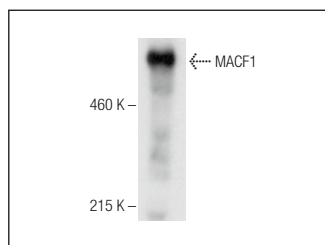
Molecular Weight of MACF1: 608 kDa.

Positive Controls: mouse brain extract: sc-2253 or rat brain extract: sc-2392.

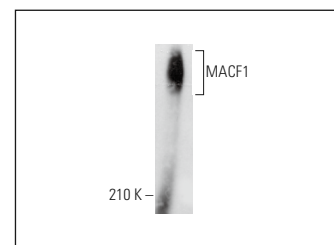
## RECOMMENDED SUPPORT REAGENTS

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 (A-3): sc-377532. Western blot analysis of MACF1 expression in mouse brain tissue extract.



MACF1 (A-3): sc-377532. Western blot analysis of MACF1 expression in rat brain tissue extract.

## SELECT PRODUCT CITATIONS

- Wang, X., et al. 2020. Decreasing microtubule Actin cross-linking factor 1 inhibits melanoma metastasis by decreasing epithelial to mesenchymal transition. *Cancer Manag. Res.* 12: 663-673.
- Yan, G., et al. 2021. Deubiquitylation and stabilization of Acf7 by ubiquitin carboxylterminal hydrolase 14 (USP14) is critical for NSCLC migration. *J. Biosci.* 46: 19.
- Ka, M., et al. 2022. MACF1, involved in the 1p34.2p34.3 microdeletion syndrome, is essential in cortical progenitor polarity and brain integrity. *Cell. Mol. Neurobiol.* 42: 2187-2204.
- Zou, L., et al. 2023. MSI1 stabilizes MACF1 to inhibit apoptosis of MC3T3-E1 cells induced by high glucose and promote osteogenic differentiation through Wnt/β-catenin signaling pathway. *Mol. Biotechnol.* 65: 1085-1095.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.