

SMOC-2 (F-11): sc-376104

BACKGROUND

SMOC-2 (SPARC-related modular calcium-binding protein-2), also known as SMAP2, MST117, MSTP117 or MSTP140, is a secreted modular calcium-binding glycoprotein found in the extracellular space. SMOC-2 is a member of the SPARC/BM-40 family and contains two EF-hand domains, one Kazal-like domain and two thyroglobulin type-1 domains. The SPARC/BM-40 family has been implicated in tissue remodeling, angiogenesis and bone mineralization. SMOC-2 is a widely expressed protein with highest expression levels found in spleen, ovary, muscle and heart tissues. SMOC-2 may interact directly with VEGF or FGF and is believed to participate in angiogenic activity, cell proliferation and migration. In addition, SMOC-2 is required for efficient growth factor-induced DNA synthesis, and its overexpression greatly stimulates DNA synthesis. For this reason, SMOC-2 is a potential target for anti-angiogenic therapies.

CHROMOSOMAL LOCATION

Genetic locus: SMOC2 (human) mapping to 6q27; Smoc2 (mouse) mapping to 17 A2.

SOURCE

SMOC-2 (F-11) is a mouse monoclonal antibody raised against amino acids 71-123 mapping near the N-terminus of SMOC-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SMOC-2 (F-11) is available conjugated to agarose (sc-376104 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376104 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376104 PE), fluorescein (sc-376104 FITC), Alexa Fluor[®] 488 (sc-376104 AF488), Alexa Fluor[®] 546 (sc-376104 AF546), Alexa Fluor[®] 594 (sc-376104 AF594) or Alexa Fluor[®] 647 (sc-376104 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-376104 AF680) or Alexa Fluor[®] 790 (sc-376104 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SMOC-2 (F-11) is recommended for detection of SMOC-2 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).

SMOC-2 (F-11) is also recommended for detection of SMOC-2 in additional species, including avian.

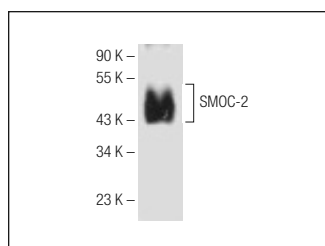
Suitable for use as control antibody for SMOC-2 siRNA (h): sc-63046, SMOC-2 siRNA (m): sc-63047, SMOC-2 shRNA Plasmid (h): sc-63046-SH, SMOC-2 shRNA Plasmid (m): sc-63047-SH, SMOC-2 shRNA (h) Lentiviral Particles: sc-63046-V and SMOC-2 shRNA (m) Lentiviral Particles: sc-63047-V.

Molecular Weight of SMOC-2: 54 kDa.

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



SMOC-2 (F-11): sc-376104. Western blot analysis of SMOC-2 expression in SMOC-2 whole cell lysate.

SELECT PRODUCT CITATIONS

- De Micheli, A.J., et al. 2020. Single-cell transcriptomic analyses identifies extensive heterogeneity in the cellular composition of mouse achilles tendons. *Am. J. Physiol., Cell Physiol.* 319: C885-C894.
- Schüler, S.C., et al. 2021. Extensive remodeling of the extracellular matrix during aging contributes to age-dependent impairments of muscle stem cell functionality. *Cell Rep.* 35: 109223.
- Liu, D., et al. 2022. SMOC-2 promotes aggressive behavior of fibroblast-like synoviocytes in rheumatoid arthritis through transcriptional and post-transcriptional regulating MYO1C. *Cell Death Dis.* 13: 1035.
- He, W.G., et al. 2023. Matricellular protein SMOC2 potentiates BMP9-induced osteogenic differentiation in mesenchymal stem cells through the enhancement of FAK/PI3K/AKT signaling. *Stem Cells Int.* 2023: 5915988.

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 for detailed protocols and support products.

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