

SARA (B-9): sc-74493

BACKGROUND

SARA (NSP, SARA, MADHIP, SMADIP, ZFYVE9, zinc finger FYVE domain containing 9) is a double zinc finger (FYVE domain) protein that influences the recruitment of Smad proteins to the TGF β receptor and ensures appropriate subcellular localization of the activated receptor-bound complex. The FYVE domain in SARA directs localization to early endosomal compartments where it can interact with TGF β receptors and Smads. Promyelocytic leukemia (PML) tumor suppressor physically interacts with Smad2/3 and SARA and promotes association and accumulation of SARA and TGF β receptor in early endosome. SARA can enhance recruitment of protein phosphatase 1 catalytic subunit (PP1c) to Smad7-GADD34 complex by controlling the specific subcellular localization of PP1c. Dephosphorylation of TGF β receptor by Smad7 is an effective mechanism for governing negative feedback in TGF β signaling.

REFERENCES

1. Nakao, A., et al. 1997. TGF β receptor-mediated signalling through Smad2, Smad3 and Smad4. *EMBO J.* 16: 5353-5362.
2. Heldin, C.H., et al. 1997. TGF β signalling from cell membrane to nucleus through SMAD proteins. *Nature* 390: 465-471.
3. Derynck, R., et al. 1998. Smads: transcriptional activators of TGF β responses. *Cell* 95: 737-740.
4. Tsukazaki, T., et al. 1998. SARA, a FYVE domain protein that recruits Smad2 to the TGF β receptor. *Cell* 95: 779-791.
5. ten Dijke, P. and Heldin, C.H. 1999. Signal transduction. An anchor for activation. *Nature* 397: 109-111.
6. Kutateladze, T.G., et al. 1999. Phosphatidylinositol 3-phosphate recognition by the FYVE domain. *Mol. Cell* 3: 805-811.
7. Wurmser, A.E., et al. 1999. Phosphoinositide 3-kinases and their FYVE domain-containing effectors as regulators of vacuolar/lysosomal membrane trafficking pathways. *J. Biol. Chem.* 274: 9129-9132.

CHROMOSOMAL LOCATION

Genetic locus: ZFYVE9 (human) mapping to 1p32.3.

SOURCE

SARA (B-9) is a mouse monoclonal antibody raised against amino acids 1-300 of SARA of human origin.

PRODUCT

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

SARA (B-9) is available conjugated to agarose (sc-74493 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-74493 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-74493 PE), fluorescein (sc-74493 FITC), Alexa Fluor[®] 488 (sc-74493 AF488), Alexa Fluor[®] 546 (sc-74493 AF546), Alexa Fluor[®] 594 (sc-74493 AF594) or Alexa Fluor[®] 647 (sc-74493 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-74493 AF680) or Alexa Fluor[®] 790 (sc-74493 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SARA (B-9) is recommended for detection of SARA of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 SARA siRNA (h): sc-36458, SARA shRNA Plasmid (h): sc-36458-SH and SARA shRNA (h) Lentiviral Particles: sc-36458-V.

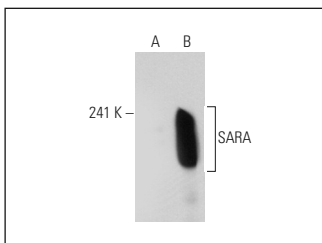
Molecular Weight of SARA: 180 kDa.

Positive Controls: SARA (h): 293T Lysate: sc-115327, HeLa whole cell lysate: sc-2200 or Caki-1 cell lysate: sc-2224.

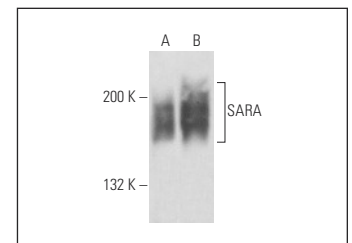
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



SARA (B-9): sc-74493. Western blot analysis of SARA expression in non-transfected: sc-117752 (A) and human SARA transfected: sc-115327 (B) 293T whole cell lysates.



SARA (B-9): sc-74493. Western blot analysis of SARA expression in HeLa (A) and Caki-1 (B) whole cell lysates.

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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