

# SGEF (E-5): sc-514048

## BACKGROUND

The Ras superfamily of GTPases, which can be subdivided into the Ras, Rho/Rac, Sar, Rab, ARF and Ran subfamilies, controls multiple aspects of cell function, including cytoskeletal rearrangement, nuclear signaling and cell growth. The Ras superfamily of GTPases function as regulated switches that toggle between a biologically active GTP-bound and an inactive GDP-bound form. This activation is catalyzed by guanine nucleotide exchange factors (GEFs). SGEF (SH3-containing guanine nucleotide exchange factor), also known as CSGEF, is an 871 amino acid RhoGEF that is highly expressed in adult liver tissue and is thought to regulate membrane dynamics during macropinocytosis (invagination of the cell membrane to form a vesicle pocket). SGEF is found in prostate cancer cells, suggesting a role for SGEF in carcinogenesis. Multiple isoforms of SGEF exist due to alternative splicing events.

## REFERENCES

1. Qi, H., et al. 2003. Isolation of the novel human guanine nucleotide exchange factor Src homology 3 domain-containing guanine nucleotide exchange factor (SGEF) and of C-terminal SGEF, an N-terminally truncated form of SGEF, the expression of which is regulated by androgen in prostate cancer cells. *Endocrinology* 144: 1742-1752.
2. Chong, Y.P., et al. 2004. A novel non-catalytic mechanism employed by the C-terminal Src-homologous kinase to inhibit Src-family kinase activity. *J. Biol. Chem.* 279: 20752-20766.
3. Ellerbroek, S.M., et al. 2004. SGEF, a Rho G guanine nucleotide exchange factor that stimulates macropinocytosis. *Mol. Biol. Cell* 15: 3309-3319.
4. McGee, A.W., et al. 2004. Calcium channel function regulated by the SH3-GK module in  $\beta$  subunits. *Neuron* 42: 89-99.

## CHROMOSOMAL LOCATION

Genetic locus: ARHGGEF26 (human) mapping to 3q25.2; Arhgef26 (mouse) mapping to 3 E1.

## SOURCE

SGEF (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 849-870 at the C-terminus of SGEF of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SGEF (E-5) is available conjugated to agarose (sc-514048 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514048 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514048 PE), fluorescein (sc-514048 FITC), Alexa Fluor® 488 (sc-514048 AF488), Alexa Fluor® 546 (sc-514048 AF546), Alexa Fluor® 594 (sc-514048 AF594) or Alexa Fluor® 647 (sc-514048 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514048 AF680) or Alexa Fluor® 790 (sc-514048 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514048 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

SGEF (E-5) is recommended for detection of SGEF of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 SGEF siRNA (h): sc-78233, SGEF siRNA (m): sc-153415, SGEF shRNA Plasmid (h): sc-78233-SH, SGEF shRNA Plasmid (m): sc-153415-SH, SGEF shRNA (h) Lentiviral Particles: sc-78233-V and SGEF shRNA (m) Lentiviral Particles: sc-153415-V.

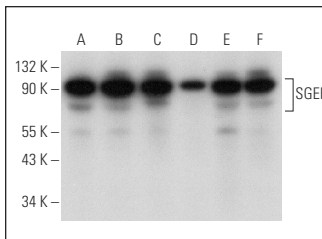
Molecular Weight of SGEF: 97 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, HeLa whole cell lysate: sc-2200 or SK-BR-3 cell lysate: sc-2218.

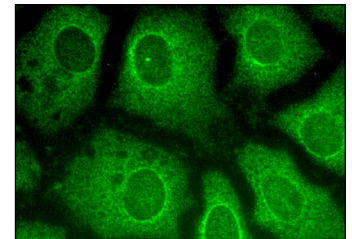
## RECOMMENDED SUPPORT REAGENTS

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



SGEF (E-5): sc-514048. Western blot analysis of SGEF expression in HeLa (A), OVCAR-3 (B), SK-BR-3 (C), NCI-H460 (D), RT-4 (E) and U-251-MG (F) whole cell lysates.



SGEF (E-5): sc-514048. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

## 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.

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