

NET1 (G-4): sc-271941

BACKGROUND

Numerous cellular functions, such as proliferation, differentiation, apoptosis, vesicular trafficking, nuclear transport and cytoskeletal organization, are controlled by GTPases. It has become increasingly clear that GTPases act in cascades in which their activities are linked by GTPase-activating proteins (GAPs) and guanine nucleotide exchange factors (GEFs). Researchers looking for new epithelial cell-specific oncogenes, using a highly efficient cDNA expression cloning system, have isolated the Ost oncogene from rat osteosarcoma cells. The Ost proto-oncogene protein contains DH and PH domains, catalyzes guanine nucleotide exchange on Rho A and Cdc42, and interacts specifically with the GTP-bound form of Rac1. The related NET1 protein also contains a DH domain and is ubiquitously expressed in a variety of tissues. Overexpression of NET1 in NIH/3T3 cells results in altered growth properties and tumorigenesis when injected into nude mice.

CHROMOSOMAL LOCATION

Genetic locus: NET1 (human) mapping to 10p15.1; Net1 (mouse) mapping to 13 A1.

SOURCE

NET1 (G-4) is a mouse monoclonal antibody raised against amino acids 106-175 mapping within an internal region of NET1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

NET1 (G-4) is available conjugated to agarose (sc-271941 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271941 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271941 PE), fluorescein (sc-271941 FITC), Alexa Fluor® 488 (sc-271941 AF488), Alexa Fluor® 546 (sc-271941 AF546), Alexa Fluor® 594 (sc-271941 AF594) or Alexa Fluor® 647 (sc-271941 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271941 AF680) or Alexa Fluor® 790 (sc-271941 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

NET1 (G-4) is recommended for detection of Rho-specific GEF NET1 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).

Suitable for use as control antibody for NET1 siRNA (h): sc-41726, NET1 siRNA (m): sc-41727, NET1 shRNA Plasmid (h): sc-41726-SH, NET1 shRNA Plasmid (m): sc-41727-SH, NET1 shRNA (h) Lentiviral Particles: sc-41726-V and NET1 shRNA (m) Lentiviral Particles: sc-41727-V.

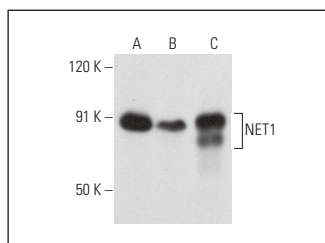
Molecular Weight of NET1: 54 kDa.

Positive Controls: RT-4 whole cell lysate: sc-364257, NET1 (h2): 293T Lysate: sc-116463 or Y79 cell lysate: sc-2240.

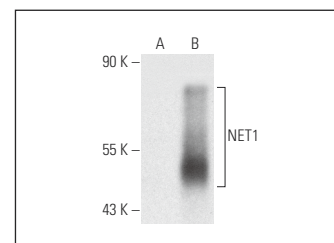
RECOMMENDED SUPPORT REAGENTS

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



NET1 (G-4): sc-271941. Western blot analysis of NET1 expression in Y79 (A), RT-4 (B) and AMJ2-C8 (C) whole cell lysates.



NET1 (G-4): sc-271941. Western blot analysis of NET1 expression in non-transfected: sc-117752 (A) and human NET1 transfected: sc-116463 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Carr, H.S., et al. 2013. Regulation of focal adhesion kinase activation, breast cancer cell motility, and amoeboid invasion by the RhoA guanine nucleotide exchange factor NET1. *Mol. Cell. Biol.* 33: 2773-2786.
2. Chen, Z.H., et al. 2021. NET1 promotes HCC growth and metastasis *in vitro* and *in vivo* via activating the Akt signaling pathway. *Aging* 13: 10672-10687.
3. Ulu, A., et al. 2021. Cdk1 phosphorylation negatively regulates the activity of NET1 towards RhoA during mitosis. *Cell. Signal.* 80: 109926.
4. Sprenger, A., et al. 2023. Src stimulates Abl-dependent phosphorylation of the guanine exchange factor Net1A to promote its cytosolic localization and cell motility. *J. Biol. Chem.* 299: 104887.

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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