SANTA CRUZ BIOTECHNOLOGY, INC.

RACK1 (H-187): sc-10775

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Members of the protein kinase C (PKC) family play a key regulatory role in a variety of cellular functions, including cell growth and differentiation, gene expression, hormone secretion and membrane function. Receptor for activated C kinases, termed RACKs, are intracellular receptors for activated PKC that may be involved in the activation-induced translocation of PKC. RACK1 (receptor for activated C kinase 1) is a 317 amino acid G protein β subunit-like protein that functions as a RACK and inhibits the activity of Src tyrosine kinases. In response to PKC activation, the intracellular localization of RACK1 and PKC bII changes, and RACK1 and PKC bII co-localize to the same sites. RACK1 is therefore thought to be a shuttling protein for PKC bII. A deficit in RACK1 may be associated with impaired PKC activation in the aging brain. The RACK1 gene is conserved in chimpanzee, canine, bovine, mouse, rat, avian, zebrafish, fruit fly, mosquito, *C. elegans, S. pombe, S. cerevisiae, K. lactis, E. gossypii, M. grisea, N. crassa, A. thaliana,* rice and *P.falciparum,* and maps to human chromosome 5q35.3.

CHROMOSOMAL LOCATION

Genetic locus: GNB2L1 (human) mapping to 5q35.3; Gnb2l1 (mouse) mapping to 11 B1.2.

SOURCE

RACK1 (H-187) is a rabbit polyclonal antibody raised against amino acids 131-317 mapping at the C-terminus of RACK1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RACK1 (H-187) is recommended for detection of RACK1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

RACK1 (H-187) is also recommended for detection of RACK1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for RACK1 siRNA (h): sc-36354, RACK1 siRNA (m): sc-36355, RACK1 siRNA (r): sc-156032, RACK1 shRNA Plasmid (h): sc-36354-SH, RACK1 shRNA Plasmid (m): sc-36355-SH, RACK1 shRNA Plasmid (r): sc-156032-SH, RACK1 shRNA (h) Lentiviral Particles: sc-36354-V, RACK1 shRNA (m) Lentiviral Particles: sc-36355-V and RACK1 shRNA (r) Lentiviral Particles: sc-156032-V.

Molecular Weight of RACK1: 36 kDa.

Positive Controls: RACK1 (h2): 293T Lysate: sc-113861, F9 cell lysate: sc-2245 or Jurkat whole cell lysate: sc-2204.

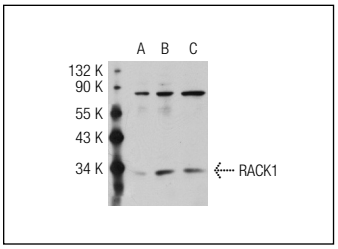
RESEARCH USE

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

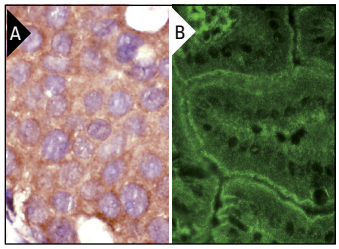
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



RACK1 (H-187): sc-10775. Western blot analysis of RACK1 expression in non-transfected 293T: sc-117752 (**A**), human RACK1 transfected 293T: sc-113861 (**B**) and F9 (**C**) whole cell lysates.



RACK1 (H-187): sc-10775. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing cytoplasmic and membrane staining (**A**). Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**B**).

SELECT PRODUCT CITATIONS

1. Okano, K., et al. 2006. RACK1 binds to Smad3 to modulate transforming growth factor-β1-stimulated α2(I) collagen transcription in renal tubular epithelial cells. J. Biol. Chem. 281: 26196-26204.
2. Wang, Z., et al. 2008. Comparative proteomics approach to screening of potential diagnostic and therapeutic targets for oral squamous cell carcinoma. Mol. Cell. Proteomics 7: 1639-1650.
3. Bourd-Boittin, K., et al. 2008. RACK1, a new ADAM12 interacting protein. Contribution to liver fibrogenesis. J. Biol. Chem. 283: 26000-26009.
4. Ai, E., et al. 2009. RACK1 directs Dynactin-dependent Rab 11 endosomal recycling during mitosis in *Caenorhabditis elegans*. Mol. Cell. Biol. 20: 1629-1638.
5. Guo, Y., et al. 2013. Receptor for activated C kinase 1 promotes hepatocellular carcinoma growth by enhancing mitogen-activated protein kinase kinase 7 activity. Hepatology 57: 140-151.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.