

pan Rac (T-17): sc-6084

BACKGROUND

A large number of low molecular weight GTP-binding proteins of the Ras super-family have been identified. These proteins regulate many fundamental processes in all eukaryotic cells such as growth, vesicle traffic and cytoskeletal organization. GTPase-activating proteins (GAPs) accelerate the intrinsic rate of GTP hydrolysis of Ras-related proteins, resulting in downregulation of their active form. Two proteins of this family, Rac 1 and Rac 2, are 92% identical and share GTP-binding and GTP hydrolysis motifs with other members of the Ras superfamily. Rac 1 is expressed in a large number of different cell types. Rac 2 is primarily expressed only in myeloid cells and has been reported to be a regulatory component of the human neutrophil NADPH oxidase.

REFERENCES

1. Trahey, M., et al. 1987. A cytoplasmic protein stimulates normal N-ras p21 GTPase, but does not affect oncogenic mutants. *Science* 238: 542-545.
2. Sewell, J.L., et al. 1988. Sequences of the bovine and yeast ADP-ribosylation factor and comparison to other GTP-binding proteins. *Proc. Natl. Acad. Sci. USA* 85: 4620-4624.
3. Didsbury, J., et al. 1989. Rac, a novel ras-related family of proteins that are botulinum toxin substrates. *J. Biol. Chem.* 264: 16378-16382.
4. Hall, A. 1990. The cellular functions of small GTP-binding proteins. *Science* 249: 636-640.

SOURCE

pan Rac (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of Rac 1 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.

Blocking peptide available for competition studies, sc-6084 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

pan Rac (T-17) is recommended for detection of Rac 1, Rac 2 and Rac 3 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

pan Rac (T-17) is also recommended for detection of Rac 1, Rac 2 and Rac 3 in additional species, including equine, canine, bovine, porcine and avian.

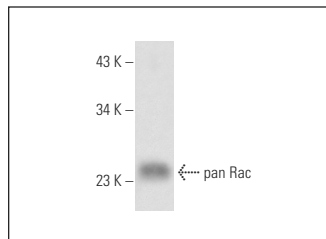
Molecular Weight of pan Rac: 22 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or mouse embryo extract: sc-364239.

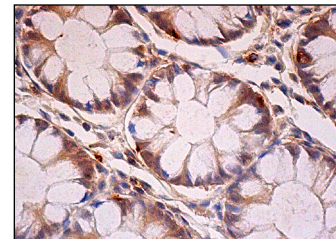
STORAGE

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

DATA



pan Rac (T-17): sc-6084. Western blot analysis of pan Rac expression in mouse embryo tissue extract.



pan Rac (T-17): sc-6084. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. El Hadj, N.B., et al. 1999. G-protein-stimulated phospholipase D activity is inhibited by lethal toxin from *Clostridium sordellii* in HL-60 cells. *J. Biol. Chem.* 274: 14021-14031.
2. Wissel, H., et al. 2005. *Chlamydomonas pneumoniae* induces expression of toll-like receptor 4 and release of TNFα and MIP-2 via an NFκB pathway in rat type II pneumocytes. *Respir. Res.* 6: 51.
3. Loesberg, W.A., et al. 2008. Simulated microgravity activates MAPK pathways in fibroblasts cultured on microgrooved surface topography. *Cell Motil. Cytoskeleton* 65: 116-129.
4. Pinel-Marie, M.L., et al. 2009. Aryl hydrocarbon receptor-dependent induction of the NADPH oxidase subunit NCF1/p47 phox expression leading to priming of human macrophage oxidative burst. *Free Radic. Biol. Med.* 47: 825-834.
5. Liang, S., et al. 2010. Honokiol inhibits HepG2 migration via down-regulation of IQGAP1 expression discovered by a quantitative pharmaceutical proteomic analysis. *Proteomics* 10: 1474-1483.
6. Bravo-Cordero, J.J., et al. 2016. A novel high content analysis tool reveals Rab8-driven actin and FA reorganization through Rho GTPases and calpain/MT1. *J. Cell Sci.* 129: 1734-1749.

RESEARCH USE

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

MONOS
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Try **pan Rac (G-2): sc-514583**, our highly recommended monoclonal alternative to pan Rac (T-17). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **pan Rac (G-2): sc-514583**.