3050 Spruce Street, St. Louis, MO 63103 USA
Tel: (800) 521-8956 (314) 771-5765 Fax: (800) 325-5052 (314) 771-5757
email: techservice@sial.com sigma-aldrich.com

Product Information

RAC2, His-tagged, human
recombinant, expressed in *E. coli* cells

Catalog Number **SRP5122**
Storage Temperature –70 °C

Synonyms: Gx, EN-7, HSPC022

Product Description

RAC2 is a GTPase, which belongs to the RAS superfamily of small GTP-binding proteins and is involved in a diverse array of cellular events, including the control of cell growth, cytoskeletal reorganization, and the activation of protein kinases. Knockdown of the gene for both RAC1 and RAC2 completely blocks B cell development indicating both GTPases are required to transduce B cell receptor (BCR) signals leading to proliferation, survival, and the upregulation of BAFF receptor.[1] Furthermore, RAC2 is required for the transfer of electrons from NADPH to cytochrome b-associated FAD, then to cytochrome b heme, and finally to oxygen.[2]

Recombinant, full-length, human RAC2 was expressed in *E. coli* cells using an N-terminal His tag. The gene accession number is NM_002872. Recombinant protein stored in 50 mM sodium phosphate, pH 7.0, 300 mM NaCl, 150 mM imidazole, 0.1 mM PMSF, 0.25 mM DTT, and 25% glycerol.

Molecular mass: ~22 kDa

Purity: 70–95% (SDS-PAGE, see Figure 1)

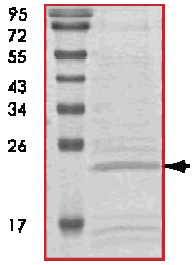
Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

The product ships on dry ice and storage at –70 °C is recommended. After opening, aliquot into smaller quantities and store at –70 °C. Avoid repeated handling and multiple freeze/thaw cycles.

Figure 1.
SDS-PAGE Gel of Typical Lot
70–95% (densitometry)



References

1. Walmsley, M.J. et al., Critical roles for Rac1 and Rac2 GTPases in B cell development and signaling. Science, **302**, 459-462 (2003).
2. Diebold, B.A. et al., Molecular basis for Rac2 regulation of phogocyte NADPH oxidase. Nature Immun., **2**, 211-215 (2001).

RC,MAM 11/11-1