

Recombinant Human Rap1a

CATALOG NUMBER: STA-735 **STORAGE:** -80°C; avoid freeze/thaw cycles

QUANTITY: 10 µg/vial in Tris-HCl, pH 7.5 with 0.2 M NaCl, 5 mM DTT and 40% glycerol

SHELF LIFE: 1 year from date of receipt under proper storage conditions; for longer term storage add 0.1% BSA

Background

Small GTP-binding proteins (or GTPases) are a family of proteins that serve as molecular regulators in signaling transduction pathways. Rap, a 24 kDa protein of the Ras superfamily, regulates a variety of biological response pathways that include cell adhesion, proliferation, differentiation, and apoptosis. The Ras-like proteins Rap1 and Rap2 share 60% identity. Like other small GTPases, Rap1a regulates molecular events by cycling between an inactive GDP-bound form and an active GTP-bound form. In their active (GTP-bound) state, Rap1a binds specifically to the Rap-binding domain (RBD) of RalGDS to control downstream signaling cascades.

Purity and Activity

Cell Biolabs' rRap1a is expressed and purified from *E. coli* as a recombinant protein with purity >85% by SDS-PAGE. It has an approximate MW of 22.8 kDa including a His-tag at the N-terminus.

Sequence

MGSSHHHHHHSSGLVPRGSHMREYKLVVLGSGGVGKSALTVQFVQGIFVEKYDPTIEDSYRKQV
EVDCQQCMLEILDTAGTEQFTAMRDLYMKNQGQGFALVYSITAQSTFNDLQDLREQILRVKDTED
VPMILVGNKCDLEDERVVGKEQGQNLARQWCNCAFLESSAKSKINVNEIFYDLVRQINRKTPVE
KKKPKKKSC

References

1. Kitayama, H., Sugimoto, Y., Matsuzaki, T., Ikawa, Y., and Noda, M. (1989) *Cell* **56**, 77–84.
2. Matsubara, K., Kishida, S., Matsuura, Y., Kitayama, H., Noda, M., and Kikuchi, A. (1999) *Oncogene* **18**, 1303–1312.
3. Bos, J. L., de Rooij, J., and Reedquist, K. A. (2001) *Nature Rev.* **2**, 369–377.
4. Herrmann, C., Horn, G., Spaargaren, M., and Wittinghofer, A. (1996) *J. Biol. Chem.* **271**, 6794–6800.

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