

RalGDS RBD Agarose Beads

CATALOG NUMBER: STA-418

STORAGE: -20°C

QUANTITY AND CONCENTRATION: 800 μ L of 50% Agarose slurry, 400 μ g of murine RalGDS-RBD (amino acid 726-823) in 1X PBS, 50% Glycerol

SHELF LIFE: 1 year from receipt under proper storage conditions; avoid multiple freeze thaw cycles

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, Rap regulates molecular events by cycling between an inactive GDP-bound form and an active GTP-bound form. In their active (GTP-bound) state, Rap1 and Rap2 bind specifically to the Rap-binding domain (RBD) of RalGDS to control downstream signaling cascades.

Presentation

RalGDS RBD Agarose beads, in color, are easy to visualize, minimizing potential loss during washes and aspirations of Rap-GTP pulldown (Figure 1).

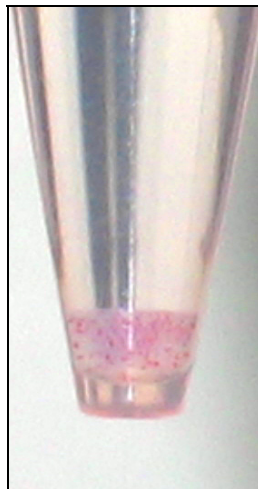


Figure 1: RalGDS-RBD Beads in Color

Activity

Product specifically interacts and precipitates GTP-bound Rap from cell lysate (Figure 2).

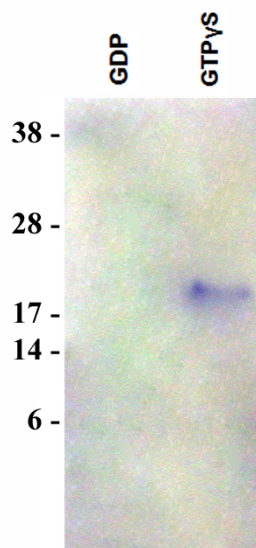


Figure 2: Rap1 Activation Assay. *Lane 1*, NIH 3T3 cell lysate loaded with GDP and incubated with RalGDS RBD Agarose beads. *Lane 2*, NIH 3T3 cell lysate loaded with GTP γ S and incubated with RalGDS RBD Agarose beads.

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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