Product Data Sheet

# Cdc42 G15A Agarose Beads (Active Cdc42-GEF)

**CATALOG NUMBER:** STA-433 **STORAGE:** -20ºC

**QUANTITY AND CONCENTRATION:** 800 µL of 50% Agarose slurry, 1 mg/mL Cdc42 G15A 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. Cdc42, a 21 kDa protein, belongs to the family of Rho GTPases regulating a variety of biological response pathways that include cell motility, cell division, gene transcription, and cell transformation. Like other small GTPases, Cdc42 influences molecular events by cycling between an inactive GDP-bound form and an active GTP-bound form. Cycling between the GDP-bound and GTP-bound state is regulated primarily by two distinct families of proteins: guanine nucleotide exchange factors (GEFs) activate Rho proteins by catalyzing the exchange of GDP for GTP, the GTPase activating proteins or GAPs negatively regulate GTPase function by stimulating GTP hydrolysis.

Similar to Ras mutants, constitutively active or dominant negative Rho GTPase mutants have been used to bind to Rho-GAP and effectors or to Rho-GEFs, respectively. A nucleotide-free GTPase has also been shown to form a high affinity binary complex with Rho-GEFs. Cdc42 G15A Agarose beads to selectively isolate and pull-down the active form of Cdc42-GEFs from purified samples or endogenous lysates. Subsequently, the precipitated Cdc42-GEF is detected by western blot analysis using an anti-Cdc42-GEF antibody.

## Presentation

Cdc42 G15A Agarose beads, in color, are easy to visualize, minimizing potential loss during washes and aspirations of active Cdc42-GEF pulldown (Figure 1).

**Figure 1:** Cdc42 G15A Beads in Color

## Purity and Activity

Purity >90% by SDS-PAGE and Coomassie blue staining. Specifically interacts and precipitaes active Cdc42-GEF from cell lysate.

## References


1. Arthur, W.T., Ellerbroek, S.M., Der, C.J., and Burridge K. (2002) *J. Biol. Chem.* **277**, 42964-42972
2. Garcia-Mata R., Wennerberg, K., Arthur, W.T., Noren, N.K., Ellenbroek, S.M., and Burridge K. (2006) *Methods Enzymol.* **406**, 425-437.


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