GGA3 PBD Agarose Beads

CATALOG NUMBER: STA-419   **STORAGE:** -20ºC

QUANTITY AND CONCENTRATION: 800 µL of 50% Agarose slurry, 400 µg human GGA3-PBD (amino acid 1-316) 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. Arf, a 20 kDa protein of the Ras superfamily, regulates a variety of biological response pathways that include vesicle trafficking, organelle structure, and endocytosis. Like other small GTPases, Arf regulates molecular events by cycling between an inactive GDP-bound form and an active GTP-bound form. In their active (GTP-bound) state, Arf1 and Arf6 bind specifically to the protein-binding domain (PBD) of GGA3 to control downstream signaling cascades.

Presentation
GGA3 PBD Agarose beads, in color, are easy to visualize, minimizing potential loss during washes and aspirations of Arf-GTP pulldown (Figure 1).

Figure 1: GGA3-PBD Beads in Color

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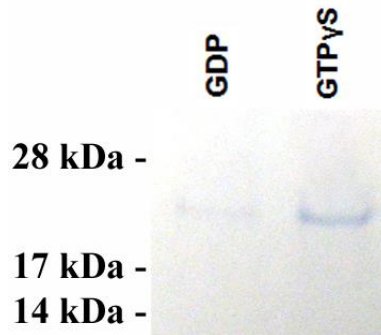Product specifically interacts and precipitates GTP-bound Arf from cell lysate (Figure 2).

Figure 2: Arf1 Activation Assay. *Lane 1*, HeLa cell lysate loaded with GDP and incubated with GGA3 PBD Agarose beads. *Lane 2*, HeLa cell lysate loaded with GTPγS and incubated with GGA3 PBD Agarose beads.
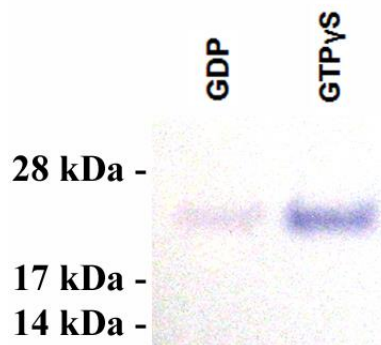

Figure 3: Arf6 Activation Assay. *Lane 1*, HeLa cell lysate loaded with GDP and incubated with GGA3 PBD Agarose beads. *Lane 2*, HeLa cell lysate loaded with GTPγS and incubated with GGA3 PBD Agarose beads.

References
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Recent Product Citations

1. Sun, Z. et al. (2022). Neuroinflammatory disease disrupts the blood-CNS barrier via crosstalk between proinflammatory and endothelial-to-mesenchymal-transition signaling. *Neuron*. doi: 10.1016/j.neuron.2022.07.015.
2. You, Z.P. et al. (2018). GEP100/ARF6 regulates VEGFR2 signaling to facilitate high glucose induced epithelial-mesenchymal transition and cell permeability in RPE cells. *Am J Physiol Cell Physiol*. doi: 10.1152/ajpcell.00312.2018.
3. Gibson, C. C. et al. (2015). Dietary vitamin D and its metabolites non-genomically stabilize the endothelium." *PLoS One*. **10**:e0140370.
4. Davis, C. T. et al. (2014). ARF6 inhibition stabilizes the vasculature and enhances survival during endotoxic shock. *J Immunol*. **192**:6045-6052.

Warranty

This product is for RESEARCH USE ONLY; not for use in diagnostic procedures.

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