SANTA CRUZ BIOTECHNOLOGY, INC.

GPR-2 (cD-14): sc-32693

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The receptor independent G protein regulator 2, GPR-2, is involved in asymmetric cell division in *C. elegans*. GPR-2 acts in conjuction with GPR-1 and the G_α proteins GOA-1 and GPA-16 to mediate spindle fiber positioning and generation of pulling forces necessary for cell division. GPR-2 contains a GoLoco/G protein regulatory motif, a 19-amino-acid sequence, that interacts with GDP-bound G_α subunits and acts as a guanine nucleotide dissociation inhibitor. In addition, GPR-2 associates with LIN-5, a coiled-coil protein that localizes the GPR proteins to the cell cortex and spindles. RIC-8 also interacts with GPR-1 and GPR-2, and may contribute to the interaction of the GPR proteins with the G_α proteins via dissociation of the $G_{\beta\gamma}$ subunit from the G_α subunit. The proteins PAR-3 and LET-99 also play a role in the asymmetric localization of the GPR-1 and GPR-2 proteins.

REFERENCES

1. Tsou, M.F,. et al. 2003. LET-99 opposes G_α/GPR signaling to generate asymmetry for spindle positioning in response to PAR and MES-1/SRC-1 signaling. Development 130: 5717-5730.
2. Gotta, M., et al. 2003. Asymmetrically distributed *C. elegans* homologs of AGS3/PINS control spindle position in the early embryo. Curr. Biol. 13: 1029-1037.
3. Colombo, K., et al. 2003. Translation of polarity cues into asymmetric spindle positioning in *Caenorhabditis elegans* embryos. Science 300: 1957-1961.
4. Manning, D.R., et al. 2003. Evidence mounts for receptor-independent activation of heterotrimeric G proteins normally *in vivo*: positioning of the mitotic spindle in *C. elegans*. Sci. STKE. 2003: 35.
5. Srinivasan, D.G., et al. 2003. A complex of LIN-5 and GPR proteins regulates G protein signaling and spindle function in *C elegans*. Genes Dev. 17: 1225-1239.
6. Couwenbergs, C., et al. 2004. Control of embryonic spindle positioning and G_α activity by *C. elegans* RIC-8. Curr. Biol. 14: 1871-1876.

SOURCE

GPR-2 (cD-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of GPR-2 of *C. elegans* origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-32693 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

GPR-2 (cD-14) is recommended for detection of GPR-2 of *Caenorhabditis elegans* origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of GPR-2: 60 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.