SANTA CRUZ BIOTECHNOLOGY, INC.

GRASP55 (E-11): sc-365602

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Golgi apparatus is a highly complex organelle comprised of a stack of cisternal membranes on the secretory pathway from the ER to the cell surface. The structure is maintained by an exoskeleton or Golgi matrix constructed from a family of coiled-coil protein, the golgins and other peripheral membrane components such as GRASP55 and GRASP65. GRASP55 (Golgi reassembly stacking protien or p59) is a component of the Golgi stacking machinery. GRASP55 is highly homologous to GRASP65 and contains two PDZ domains. GRASP55 is myristoylated and palmitoylated. Unlike GRASP65, GRASP55 does not have detectable binding with the vesicle docking protein GM130 and is located on the medial-Golgi rather than *cis*-Golgi. Both GRASP55 and GRASP65 function in the stacking of Golgi cisternae. The novel coiled-coil protein golgin 45 interacts with GRASP55 and the GTP form of Rab 2, suggesting that GRASP55 and golgin 45 form a Rab 2 effector complex on medial-Golgi essential for normal protein transport and Golgi structure. ERK2 directly phosphorylates GRASP55, which is phosphorylated in mitotic cells, suggesting that mitogen-activated protein kinase kinase (MKK)/ERK pathway phosphorylates the Golgi during mitosis.

REFERENCES

1. Shorter, J., et al. 1999. GRASP55, a second mammalian GRASP protein involved in the stacking of Golgi cisternae in a cell-free system. EMBO J. 18: 4949-4960.
2. Kuo, A., et al. 2000. Transmembrane transforming growth factor-α tethers to the PDZ domain-containing, Golgi membrane-associated protein p59/GRASP55. EMBO J. 19: 6427-6439.
3. Short, B., et al. 2001. A GRASP55-Rab 2 effector complex linking Golgi structure to membrane traffic. J. Cell Biol. 155: 877-883.
4. Barr, F.A., et al. 2001. Golgi matrix proteins interact with p24 cargo receptors and aid their efficient retention in the Golgi apparatus. J. Cell Biol. 155: 885-891.

CHROMOSOMAL LOCATION

Genetic locus: GORASP2 (human) mapping to 2q31.1; Gorasp2 (mouse) mapping to 2 C2.

SOURCE

GRASP55 (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 429-449 at the C-terminus of GRASP55 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-365602 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

GRASP55 (E-11) is recommended for detection of GRASP55 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for GRASP55 siRNA (h): sc-41226, GRASP55 siRNA (m): sc-41227, GRASP55 shRNA Plasmid (h): sc-41226-SH, GRASP55 shRNA Plasmid (m): sc-41227-SH, GRASP55 shRNA (h) Lentiviral Particles: sc-41226-V and GRASP55 shRNA (m) Lentiviral Particles: sc-41227-V.

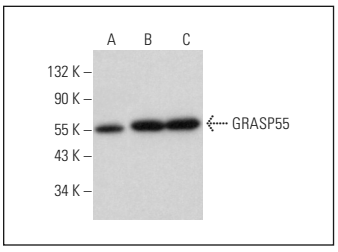
Molecular Weight of GRASP55: 55 kDa.

Positive Controls: rat testis extract: sc-2400, A-10 cell lysate: sc-3806 or rat brain extract: sc-2392.

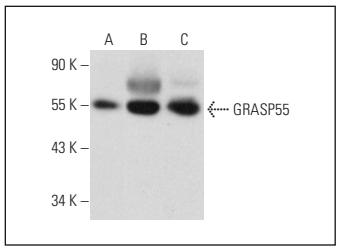
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GRASP55 (E-11): sc-365602. Western blot analysis of GRASP55 expression in 3T3-L1 (**A**), A-10 (**B**) and RPE-J (**C**) whole cell lysates.



GRASP55 (E-11): sc-365602. Western blot analysis of GRASP55 expression in Hep G2 whole cell lysate (**A**) and rat testis (**B**) and rat brain (**C**) tissue extracts.

SELECT PRODUCT CITATIONS

1. Cao, L.J., et al. 2020. Tubeimoside-1 induces apoptosis in human glioma U251 cells by suppressing PI3K/Akt-mediated signaling pathways. Mol. Med. Rep. 22: 1527-1535.

STORAGE

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