SANTA CRUZ BIOTECHNOLOGY, INC.

GRASP55 (E-5): sc-271840

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.

CHROMOSOMAL LOCATION

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

SOURCE

GRASP55 (E-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 11-29 near the N-terminus of GRASP55 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GRASP55 (E-5) is available conjugated to agarose (sc-271840 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271840 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271840 PE), fluorescein (sc-271840 FITC), Alexa Fluor® 488 (sc-271840 AF488), Alexa Fluor® 546 (sc-271840 AF546), Alexa Fluor® 594 (sc-271840 AF594) or Alexa Fluor® 647 (sc-271840 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271840 AF680) or Alexa Fluor® 790 (sc-271840 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271840 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GRASP55 (E-5) 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).

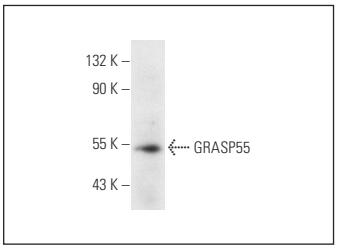
GRASP55 (E-5) is also recommended for detection of GRASP55 in additional species, including equine, canine, bovine, porcine and avian.

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.

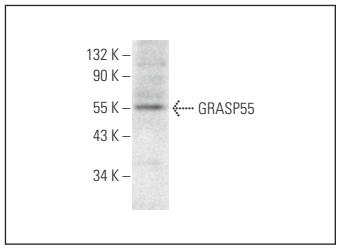
Molecular Weight of GRASP55: 55 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or rat brain extract: sc-2392.

DATA



GRASP55 (E-5): sc-271840. Western blot analysis of GRASP55 expression in Hep G2 whole cell lysate.



GRASP55 (E-5): sc-271840. Western blot analysis of GRASP55 expression in K-562 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Jiang, Q., et al. 2014. Golgin-84-associated Golgi fragmentation triggers Tau hyperphosphorylation by activation of cyclin-dependent kinase-5 and extracellular signal-regulated kinase. Neurobiol. Aging 35: 1352-1363.
2. Son, S.M., et al. 2016. Insulin-degrading enzyme secretion from astrocytes is mediated by an autophagy-based unconventional secretory pathway in Alzheimer disease. Autophagy 12: 784-800.
3. Krokowski, D., et al. 2017. GADD34 function in protein trafficking promotes adaptation to hyperosmotic stress in human corneal cells. Cell Rep. 21: 2895-2910.

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.