LRSAM1 (E-20): sc-139529

BACKGROUND

Ubiquitin is an abundant, highly conserved protein found in all eukaryotic cells either free or covalently attached to cellular proteins. Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). LRSAM1 (leucine-rich repeat and sterile α motif-containing protein 1), also known as Tsg101-associated ligase, is a 723 amino acid E3 ubiquitin-protein ligase that mediates the monoubiquination of tsg 101, a regulator of vesicular trafficking. This leads to inactivation of the sorting of endocytic and exocytic cargos, such as EGF receptors and HIV-1 viral proteins. Mutations within the LRSAM1 gene have been identified in patients with Charcot-Marie-Tooth disease. There are three isoforms of LRSAM1 that are produced as a result of alternative splicing events.

REFERENCES

1. Amit, I., et al. 2004. Tal, a Tsg101-specific E3 ubiquitin ligase, regulates receptor endocytosis and retrovirus budding. Genes Dev. 18: 1737-1752.

2. Carlton, J.G., et al. 2007. Parallels between cytokinesis and retroviral budding: a role for the ESCRT machinery. Science 316: 1908-1912.

3. McDonald, B., et al. 2008. Regulation of Tsg101 expression by the steadiness box: a role of Tsg101-associated ligase. Mol. Biol. Cell 19: 754-763.

4. Guernsey, D.L., et al. 2010. Mutation in the gene encoding ubiquitin ligase LRSAM1 in patients with Charcot-Marie-Tooth disease. PLoS Genet. 6: e1001081.

5. Ng, A.C., et al. 2010. Microbes and Health Sackler Colloquium: Human leucine-rich repeat proteins: a genome-wide bioinformatic categorization and functional analysis in innate immunity. Proc. Natl. Acad. Sci. USA 108 Suppl. 1: 4631-4638.

CHROMOSOMAL LOCATION

Genetic locus: LRSAM1 (human) mapping to 9q33.3; Lrsam1 (mouse) mapping to 2 B.

SOURCE

LRSAM1 (E-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of LRSAM1 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-139529 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.

APPLICATIONS

LRSAM1 (E-20) is recommended for detection of LRSAM1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LRSAM1 siRNA (h): sc-92826, LRSAM1 siRNA (m): sc-149124, LRSAM1 shRNA Plasmid (h): sc-92826-SH, LRSAM1 shRNA Plasmid (m): sc-149124-SH, LRSAM1 shRNA (h) Lentiviral Particles: sc-92826-V and LRSAM1 shRNA (m) Lentiviral Particles: sc-149124-V.

Molecular Weight of LRSAM1 isoform 1: 84 kDa.

Molecular Weight of LRSAM1 isoform 2: 80 kDa.

Molecular Weight of LRSAM1 isoform 3: 35 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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