SANTA CRUZ BIOTECHNOLOGY, INC.

Sec31A (H-2): sc-376587

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. Sec31A, also known as ABP125, ABP130 or SEC31L1, is a 1,220 amino acid protein that contains seven WD repeats and localizes to the cytoplasm and to cytoplasmic vesicles, as well as to the membrane of the endoplasmic reticulum (ER). Expressed ubiquitously at high levels, Sec31A functions as a component of the COP II (coat protein II) complex and, working in tandem with other proteins, promotes the formation of ER transport vesicles and aids in the selection of cargo molecules. Chromosomal aberrations that involve the Sec31A gene are associated with inflammatory myofibroblastic tumors (IMTs), suggesting a role for Sec31A in carcinogenesis. Multiple isoforms of Sec31A exist due to alternative splicing events.

CHROMOSOMAL LOCATION

Genetic locus: SEC31A (human) mapping to 4q21.22.

SOURCE

Sec31A (H-2) is a mouse monoclonal antibody raised against amino acids 429-571 mapping within an internal region of Sec31A of human origin.

PRODUCT

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

Sec31A (H-2) is available conjugated to agarose (sc-376587 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376587 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376587 PE), fluorescein (sc-376587 FITC), Alexa Fluor® 488 (sc-376587 AF488), Alexa Fluor® 546 (sc-376587 AF546), Alexa Fluor® 594 (sc-376587 AF594) or Alexa Fluor® 647 (sc-376587 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376587 AF680) or Alexa Fluor® 790 (sc-376587 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Sec31A (H-2) is recommended for detection of Sec31A of 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 Sec31A siRNA (h): sc-89169, Sec31A shRNA Plasmid (h): sc-89169-SH and Sec31A shRNA (h) Lentiviral Particles: sc-89169-V.

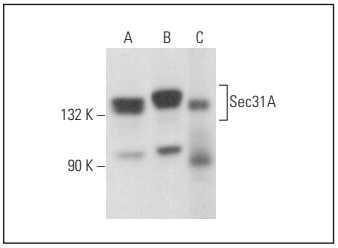
Molecular Weight of Sec31A: 150 kDa.

Positive Controls: human cerebral cortex extract: sc-516707, HeLa whole cell lysate: sc-2200 or MCF7 whole cell lysate: sc-2206.

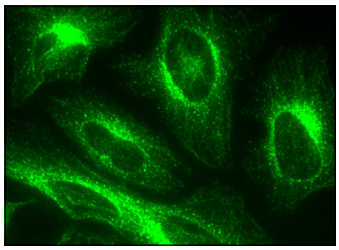
STORAGE

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

DATA



Sec31A (H-2): sc-376587. Western blot analysis of Sec31A expression in HeLa (**A**) and MCF7 (**B**) whole cell lysates and human cerebral cortex tissue extract (**C**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Sec31A (H-2): sc-376587. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. McGourty, C.A., et al. 2016. Regulation of the CUL3 ubiquitin ligase by a calcium-dependent co-adaptor. Cell 167: 525-538.e14.
2. Kondo, Y., et al. 2018. Site-1 protease deficiency causes human skeletal dysplasia due to defective inter-organelle protein trafficking. JCI Insight 3: e121596.
3. Halperin, D., et al. 2019. Sec31A mutation affects ER homeostasis, causing neurological syndrome. J. Med. Genet. 56: 139-148.
4. Barbera, S., et al. 2019. The small GTPase Rab5c is a key regulator of trafficking of the CD93/Multimerin-2/β1 Integrin complex in endothelial cell adhesion and migration. Cell Commun. Signal. 17: 55.
5. Zeyen, L., et al. 2020. Hepatitis B subviral envelope particles use the COPII machinery for intracellular transport via selective exploitation of Sec24A and Sec23B. Cell. Microbiol. 22: e13181.
6. Cho, H.J. and Mook-Jung, I. 2020. Amyloid β regulates ER exit sites formation through O-GlcNAcylation triggered by disrupted calcium homeostasis. Biol. Cell 112: 439-451.
7. Lee, J.E., et al. 2022. SHISA5/SCOTIN restrains spontaneous autophagy induction by blocking contact between the ERES and phagophores. Autophagy 18: 1613-1628.
8. Cao, Q., et al. 2022. A role for Collagen VII in matrix protein secretion. Matrix Biol. 111: 226-244.
9. Saha, K., et al. 2022. Pharmacological chaperone-rescued cystic fibrosis CFTR-F508del mutant overcomes PRAF2-gated access to endoplasmic reticulum exit sites. Cell. Mol. Life Sci. 79: 530.

RESEARCH USE

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