SANTA CRUZ BIOTECHNOLOGY, INC.

CHMP5 (F-7): sc-374338

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The charged multivesicular body proteins, commonly designated CHMPs, belong to the vacuolar sorting protein family and function as chromatin-modifying proteins. CHMP1-6 are all components of ESCRT (endosomal sorting complex required for transport) I, II or III complexes. These complexes are crucial for sorting endosomal articles into multivesicular bodies (MVBs) and are required for the formation of these bodies. During HIV-1 infection, the virus uses the ESCRT-III complex to mediate budding and exocytosis of viral proteins. CHMP5 interacts directly with LIP5, a protein required for HIV release. Depletion of LIP5 will reduce HIV-1 budding, whereas a depletion of CHMP5 will increase HIV-1 release. Subsequently, over-expression of CHMP5 will reduce HIV-1 budding. CHMP5 also regulates late endosomal development downstream of MVB formation and a loss of CHMP5 will result in increased signal transduction due to a decrease in lysosomal degradation function.

REFERENCES

1. von Schwedler, U.K., et al. 2003. The protein network of HIV budding. Cell 114: 701-713.
2. Ward, D.M., et al. 2005. The role of LIP5 and CHMP5 in multivesicular body formation and HIV-1 budding in mammalian cells. J. Biol. Chem. 280: 10548-10555.
3. Shim, J.H., et al. 2006. CHMP5 is essential for late endosome function and downregulation of receptor signaling during mouse embryogenesis. J. Cell Biol. 172: 1045-1056.

CHROMOSOMAL LOCATION

Genetic locus: CHMP5 (human) mapping to 9p13.3; Chmp5 (mouse) mapping to 4 A5.

SOURCE

CHMP5 (F-7) is a mouse monoclonal antibody raised against amino acids 130-219 mapping at the C-terminus of CHMP5 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.

CHMP5 (F-7) is available conjugated to agarose (sc-374338 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374338 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374338 PE), fluorescein (sc-374338 FITC), Alexa Fluor® 488 (sc-374338 AF488), Alexa Fluor® 546 (sc-374338 AF546), Alexa Fluor® 594 (sc-374338 AF594) or Alexa Fluor® 647 (sc-374338 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374338 AF680) or Alexa Fluor® 790 (sc-374338 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CHMP5 (F-7) is recommended for detection of CHMP5 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).

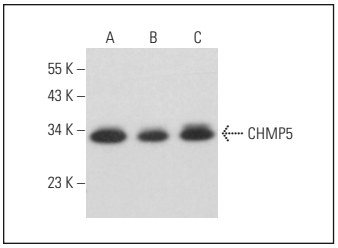
CHMP5 (F-7) is also recommended for detection of CHMP5 in additional species, including bovine and equine.

Suitable for use as control antibody for CHMP5 siRNA (h): sc-60374, CHMP5 siRNA (m): sc-60375, CHMP5 shRNA Plasmid (h): sc-60374-SH, CHMP5 shRNA Plasmid (m): sc-60375-SH, CHMP5 shRNA (h) Lentiviral Particles: sc-60374-V and CHMP5 shRNA (m) Lentiviral Particles: sc-60375-V.

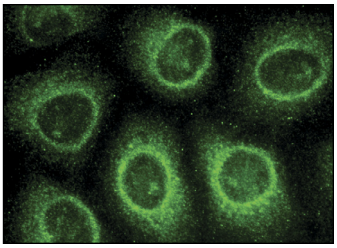
Molecular Weight of CHMP5: 32 kDa.

Positive Controls: A549 cell lysate: sc-2413, K-562 whole cell lysate: sc-2203 or SW480 cell lysate: sc-2219.

DATA



CHMP5 (F-7): sc-374338. Western blot analysis of CHMP5 expression in K-562 (**A**), A549 (**B**) and SW480 (**C**) whole cell lysates.



CHMP5 (F-7): sc-374338. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhao, L., et al. 2018. FLCN is a novel Rab11A-interacting protein that is involved in the Rab11A-mediated recycling transport. J. Cell Sci. 131: jcs218792.
2. Jiang, C., et al. 2019. CRISPR/Cas9 screens reveal multiple layers of B cell CD40 regulation. Cell Rep. 28: 1307-1322.e8.
3. Liu, Y., et al. 2021. Membrane skeleton modulates erythroid proteome remodeling and organelle clearance. Blood 137: 398-409.
4. Oron, M., et al. 2022. The molecular network of the proteasome machinery inhibition response is orchestrated by HSP70, revealing vulnerabilities in cancer cells. Cell Rep. 40: 111428.
5. Marie, P.P., et al. 2023. Accessory ESCRT-III proteins are conserved and selective regulators of Rab11a-exosome formation. J. Extracell. Vesicles 12: e12311.

RESEARCH USE

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