SANTA CRUZ BIOTECHNOLOGY, INC.

CHMP4A (E-6): sc-514869

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The charged multivesicular body proteins or chromatin modifying 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 via the association of CHMP4 and a protein recruited by HIV-1 p6, called PDCD61P, which is present in viral $G_{\alpha\gamma}$ assembly and budding. CHMP4 is strongly expressed in kidney, liver, heart and skeletal muscle and to a lesser degree in lung, brain and pancreas. Three CHMP4 isoforms, encoded by distinct genes, are designated CHMP4A, CHMP4B and CHMP4C.

REFERENCES

1. Katoh, K., et al. 2003. CHMP4b is a major binding partner of the ALG-2-interacting protein Alix among the three CHMP4 isoforms. Arch. Biochem. Biophys. 421: 159-165.
2. von Schwedler, U.K., et al. 2003. The protein network of HIV budding. Cell 114: 701-713.
3. Katoh, K., et al. 2005. The penta-EF-hand protein ALG-2 interacts directly with the ESCRT-I component TSG101, and Ca^{2+}-dependently co-localizes to aberrant endosomes with dominant-negative AAA ATPase SKD1/Vps4B. Biochem. J. 391: 677-685.
4. Horii, M., et al. 2006. CHMP7, a novel ESCRT-III-related protein, associates with CHMP4b and functions in the endosomal sorting pathway. Biochem. J. 400: 23-32.

CHROMOSOMAL LOCATION

Genetic locus: CHMP4A (human) mapping to 14q12.

SOURCE

CHMP4A (E-6) is a mouse monoclonal antibody raised against amino acids 171-222 mapping at the C-terminus of CHMP4A 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.

CHMP4A (E-6) is available conjugated to agarose (sc-514869 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514869 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514869 PE), fluorescein (sc-514869 FITC), Alexa Fluor® 488 (sc-514869 AF488), Alexa Fluor® 546 (sc-514869 AF546), Alexa Fluor® 594 (sc-514869 AF594) or Alexa Fluor® 647 (sc-514869 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514869 AF680) or Alexa Fluor® 790 (sc-514869 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

CHMP4A (E-6) is recommended for detection of CHMP4A 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 CHMP4A siRNA (h): sc-60373, CHMP4A shRNA Plasmid (h): sc-60373-SH and CHMP4A shRNA (h) Lentiviral Particles: sc-60373-V.

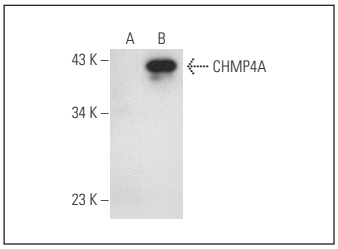
Molecular Weight of CHMP4A: 25 kDa.

Positive Controls: CHMP4A (h): 293T Lysate: sc-372546.

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



CHMP4A (E-6): sc-514869. Western blot analysis of CHMP4A expression in non-transfected: sc-117752 (**A**) and human CHMP4A transfected: sc-372546 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Dai, E., et al. 2020. ESCRT-III-dependent membrane repair blocks ferroptosis. Biochem. Biophys. Res. Commun. 522: 415-421.
2. Zhang, Y., et al. 2021. Phosphatase Shp2 regulates biogenesis of small extracellular vesicles by dephosphorylating Syntenin. J. Extracell. Vesicles 10: e12078.

STORAGE

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