

CHMP4B (C-12): sc-82556

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 also required for the formation of these bodies. CHMP4B (charged multivesicular body protein 4b) is a 224 amino acid protein that interacts with Alix, which results in the redistribution of Alix from the cytoplasm to the perinuclear area. Overexpression of CHMP4B induces accumulation of ubiquitinated proteins and inhibits degradation of endocytosed EGF. Defects in the gene encoding CHMP4B can cause posterior polar cataract type 3 (CTPP3), a disease characterized by distinct opacity located at the back of the lens resulting in visual impairment and eventual blindness.

REFERENCES

1. Katoh, K., et al. 2003. The ALG-2-interacting protein Alix associates with CHMP4B, a human homologue of yeast Snf7 that is involved in multivesicular body sorting. *J. Biol. Chem.* 278: 39104-39113.
2. Katoh, K., et al. 2004. CHMP4b is a major binding partner of the ALG-2-interacting protein Alix among the three CHMP4 isoforms. *Arch. Biochem. Biophys.* 421: 159-165.
3. Yorikawa, C., et al. 2005. Human CHMP6, a myristoylated ESCRT-III protein, interacts directly with an ESCRT-II component EAP20 and regulates endosomal cargo sorting. *Biochem. J.* 387: 17-26.

CHROMOSOMAL LOCATION

Genetic locus: CHMP4B (human) mapping to 20q11.22; Chmp4b (mouse) mapping to 2 H1.

SOURCE

CHMP4B (C-12) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of CHMP4B 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-82556 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.

RESEARCH USE

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

APPLICATIONS

CHMP4B (C-12) is recommended for detection of CHMP4B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); non cross-reactive with other CHMP family members.

CHMP4B (C-12) is also recommended for detection of CHMP4B in additional species, including porcine.

Suitable for use as control antibody for CHMP4B siRNA (h): sc-72897, CHMP4B siRNA (m): sc-72898, CHMP4B shRNA Plasmid (h): sc-72897-SH, CHMP4B shRNA Plasmid (m): sc-72898-SH, CHMP4B shRNA (h) Lentiviral Particles: sc-72897-V and CHMP4B shRNA (m) Lentiviral Particles: sc-72898-V.

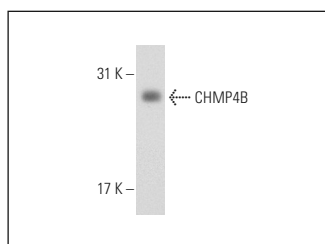
Molecular Weight of CHMP4B: 25 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, mouse brain extract: sc-2253 or EOC 20 whole cell lysate: sc-364187.

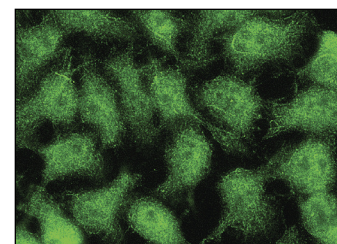
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



CHMP4B (C-12): sc-82556. Western blot analysis of CHMP4B expression in NIH/3T3 whole cell lysate.



CHMP4B (C-12): sc-82556. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization.

SELECT PRODUCT CITATIONS

1. Bodon, G., et al. 2011. Charged multivesicular body protein 2B (CHMP2B) of the endosomal sorting complex required for transport-III (ESCRT-III) polymerizes into helical structures deforming the plasma membrane. *J. Biol. Chem.* 286: 40276-40286.
2. Baietti, M.F., et al. 2012. Syndecan-syntenin-ALIX regulates the biogenesis of exosomes. *Nat. Cell Biol.* 14: 677-685.