

# CHMP3 (F-1): sc-166361



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), as well as required for the formation of these bodies. CHMP3, also known as Vps24, associates directly with CHMP2 and CHMP4 for the disassembly of ESCRT-III complex in an ATP-dependent manner. During HIV-1 infection, the virus uses the ESCRT-III complex to mediate budding and exocytosis of viral proteins. Overexpression of CHMP3 strongly inhibits HIV-1 release. CHMP3 is expressed in brain, skeletal muscle, heart, lung, kidney and liver.

## CHROMOSOMAL LOCATION

Genetic locus: CHMP3 (human) mapping to 2p11.2; Chmp3 (mouse) mapping to 6 C1.

## SOURCE

CHMP3 (F-1) is a mouse monoclonal antibody raised against amino acids 1-222 representing full length CHMP3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CHMP3 (F-1) is available conjugated to agarose (sc-166361 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166361 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166361 PE), fluorescein (sc-166361 FITC), Alexa Fluor® 488 (sc-166361 AF488), Alexa Fluor® 546 (sc-166361 AF546), Alexa Fluor® 594 (sc-166361 AF594) or Alexa Fluor® 647 (sc-166361 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166361 AF680) or Alexa Fluor® 790 (sc-166361 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

CHMP3 (F-1) is recommended for detection of CHMP3 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), immunohistochemistry (including paraffin-embedded sections) (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 CHMP3 siRNA (h): sc-60371, CHMP3 siRNA (m): sc-60372, CHMP3 shRNA Plasmid (h): sc-60371-SH, CHMP3 shRNA Plasmid (m): sc-60372-SH, CHMP3 shRNA (h) Lentiviral Particles: sc-60371-V and CHMP3 shRNA (m) Lentiviral Particles: sc-60372-V.

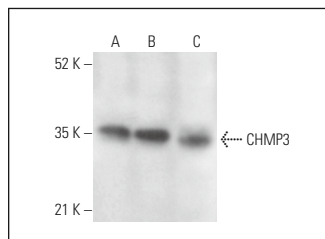
Molecular Weight of CHMP3: 33 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, human brain extract: sc-364375 or A549 cell lysate: sc-2413.

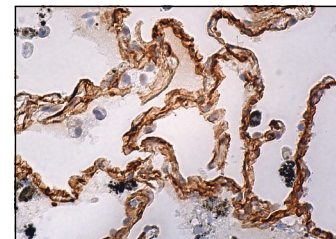
## STORAGE

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

## DATA



CHMP3 (F-1): sc-166361. Western blot analysis of CHMP3 expression in Hep G2 (A) and A549 (B) whole cell lysates and human brain tissue extract (C).



CHMP3 (F-1): sc-166361. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lung tissue showing cytoplasmic and membrane staining of pneumocytes.

## SELECT PRODUCT CITATIONS

- Horn, A.V., et al. 2017. A conserved role for the ESCRT membrane budding complex in LINE retrotransposition. *PLoS Genet.* 13: e1006837.
- Skowrya, M.L., et al. 2018. Triggered recruitment of ESCRT machinery promotes endolysosomal repair. *Science* 360: eaar5078.
- Takahashi, Y., et al. 2018. An autophagy assay reveals the ESCRT-III component CHMP2A as a regulator of phagophore closure. *Nat. Commun.* 9: 2855.
- Dai, E., et al. 2019. ESCRT-III-dependent membrane repair blocks ferroptosis. *Biochem. Biophys. Res. Commun.* 522: 415-421.
- Shao, R., et al. 2021. The balance between AIM2-associated inflammation and autophagy: the role of CHMP2A in brain injury after cardiac arrest. *J. Neuroinflammation* 18: 257.
- Tan, J.X., et al. 2022. A phosphoinositide signalling pathway mediates rapid lysosomal repair. *Nature* 609: 815-821.
- Wu, Z., et al. 2024. VPS4B orchestrates response to nuclear envelope stress by regulating ESCRT-III dynamics in glioblastoma. *Nucleus* 15: 2423660.
- Chen, W., et al. 2024. Ca<sup>2+</sup> -sensor ALG-2 engages ESCRTs to enhance lysosomal membrane resilience to osmotic stress. *bioRxiv*. E-published.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.