

LIP5 (C-1): sc-374013

BACKGROUND

LIP5 (LYST-interacting protein 5), also known as VTA1 (Vps20-associated 1 homolog), DRG1 (dopamine-responsive protein DRG-1), SBP1 (SKD1 binding protein 1) or My012, is a 307 amino acid protein belonging to the VTA1 family. LIP5 plays a role in sorting membrane proteins, including lysosomal enzymes, lipids and stimulated growth factor receptors, for lysosomal degradation in a pathway known as the endosomal multivesicular bodies (MVB) pathway. Found in brain, liver, heart and kidney, LIP5 localizes to cytoplasm and both endosomal and peripheral membranes. RNAi studies demonstrate that LIP5 depletion decreases human immunodeficiency virus type 1 (HIV-1) budding, and LIP5 is known to interact with CHMP1B, CHMP2A, CHMP5, VPS4B, KIAA0174 (IST1) and possibly CHMP3.

REFERENCES

- Shi, J., Cai, W., Chen, X., Ying, K., Zhang, K. and Xie, Y. 2001. Identification of dopamine responsive mRNAs in glial cells by suppression subtractive hybridization. *Brain Res.* 910: 29-37.
- Fujita, H., Umezaki, Y., Imamura, K., Ishikawa, D., Uchimura, S., Nara, A., Yoshimori, T., Hayashizaki, Y., Kawai, J., Ishidoh, K., Tanaka, Y. and Himeno, M. 2004. Mammalian class E Vps proteins, SBP1 and mVps2/CHMP2A, interact with and regulate the function of an AAA-ATPase SKD1/Vps4B. *J. Cell Sci.* 117: 2997-3009.
- Ward, D.M., Vaughn, M.B., Shiflett, S.L., White, P.L., Pollock, A.L., Hill, J., Schneggenberger, R., Sundquist, W.I. and Kaplan, J. 2005. The role of LIP5 and CHMP5 in multivesicular body formation and HIV-1 budding in mammalian cells. *J. Biol. Chem.* 280: 10548-10555.
- Welsch, S., Habermann, A., Jäger, S., Müller, B., Krijnse-Locker, J. and Kräusslich, H.G. 2006. Ultrastructural analysis of ESCRT proteins suggests a role for endosome-associated tubular-vesicular membranes in ESCRT function. *Traffic* 7: 1551-1566.
- Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 610902. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

CHROMOSOMAL LOCATION

Genetic locus: VTA1 (human) mapping to 6q24.1; Vta1 (mouse) mapping to 10 A2.

SOURCE

LIP5 (C-1) is a mouse monoclonal antibody raised against amino acids 1-300 mapping at the N-terminus of LIP5 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.

STORAGE

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

APPLICATIONS

LIP5 (C-1) is recommended for detection of LIP5 of human origin and Vta1 of mouse and rat 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 LIP5 siRNA (h): sc-95648, Vta1 siRNA (m): sc-155235, LIP5 shRNA Plasmid (h): sc-95648-SH, Vta1 shRNA Plasmid (m): sc-155235-SH, LIP5 shRNA (h) Lentiviral Particles: sc-95648-V and Vta1 shRNA (m) Lentiviral Particles: sc-155235-V.

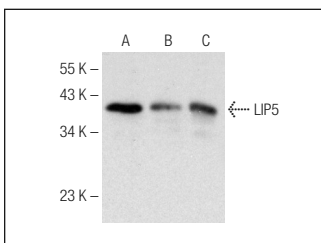
Molecular Weight of LIP5: 42 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

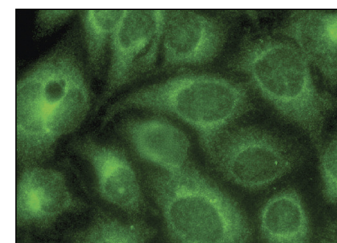
RECOMMENDED SUPPORT REAGENTS

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



LIP5 (C-1): sc-374013. Western blot analysis of LIP5 expression in HEK293 (A), Hep G2 (B) and K-562 (C) whole cell lysates.



LIP5 (C-1): sc-374013. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Fields, J., Dumaop, W., Adame, A., Ellis, R.J., Letendre, S., Grant, I. and Masliah, E. 2013. Alterations in the levels of vesicular trafficking proteins involved in HIV replication in the brains and CSF of patients with HIV-associated neurocognitive disorders. *J. Neuroimmune Pharmacol.* 8: 1197-209.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.