

# TIP47 (F-10): sc-390968

## BACKGROUND

Tail-interacting 47kDa protein (TIP47), known also as human placental tissue protein 17b (PP17b), binds to cytoplasmic domains of the cation-dependent (CD) and cation-independent (CI) mannose 6-phosphate receptors (MPRs) and facilitates their transport from endosomes to the Golgi complex. The inability of TIP47 to bind several proteins also transported from endosomes to the *trans* Golgi network indicates that TIP47 associates with a very select set of cargo molecules. In CD-MPR, TIP47 recognizes a phenylalanine/tryptophan signal sequence essential for proper sorting within the endosomal pathway. For CI-MPR binding, TIP47 requires cytoplasmic residues 48-74 of CI-MPR for high-affinity binding while residues 75-163 of CI-MPR aid in the presentation of the higher-affinity residues. Additionally, TIP47 competes with AP-2 clathrin adaptor for binding residues 24-29 of CI-MPR. In tissue extracts of cervical carcinoma patients, TIP47 is overexpressed. Dysplastic cells in high grade dysplasias express more TIP47 than dysplastic cells in low grade dysplasias, and both cytoplasmic types of dysplasias express more TIP47 than normal cervical epithelial cells. The gene encoding human TIP47 maps to chromosome 19p13.3.

## REFERENCES

- Diaz, E. and Pfeffer, S.R. 1998. TIP47: a cargo selection device for mannose 6-phosphate receptor trafficking. *Cell* 93: 433-443.
- Than, N.G., et al. 1998. Cloning and sequence analysis of cDNAs encoding human placental tissue protein 17 (PP17) variants. *Eur. J. Biochem.* 258: 752-757.
- Orsel, J.G., et al. 2000. Recognition of the 300-kDa mannose 6-phosphate receptor cytoplasmic domain by 47 kDa tail-interacting protein. *Proc. Natl. Acad. Sci. USA* 97: 9047-9051.

## CHROMOSOMAL LOCATION

Genetic locus: PLIN3 (human) mapping to 19p13.3; Plin3 (mouse) mapping to 17 D.

## SOURCE

TIP47 (F-10) is a mouse monoclonal antibody raised against amino acids 232-437 mapping at the C-terminus of TIP47 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TIP47 (F-10) is available conjugated to agarose (sc-390968 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390968 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390968 PE), fluorescein (sc-390968 FITC), Alexa Fluor® 488 (sc-390968 AF488), Alexa Fluor® 546 (sc-390968 AF546), Alexa Fluor® 594 (sc-390968 AF594) or Alexa Fluor® 647 (sc-390968 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390968 AF680) or Alexa Fluor® 790 (sc-390968 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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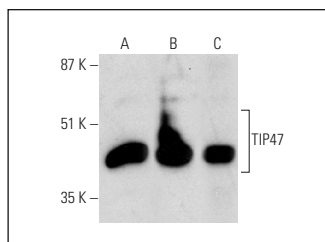
## APPLICATIONS

TIP47 (F-10) is recommended for detection of TIP47 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 TIP47 siRNA (h): sc-44157, TIP47 siRNA (m): sc-154282, TIP47 shRNA Plasmid (h): sc-44157-SH, TIP47 shRNA Plasmid (m): sc-154282-SH, TIP47 shRNA (h) Lentiviral Particles: sc-44157-V and TIP47 shRNA (m) Lentiviral Particles: sc-154282-V.

Positive Controls: rat placenta extract: sc-364808, PC-12 cell lysate: sc-2250 or C6 whole cell lysate: sc-364373.

## DATA



TIP47 (F-10) HRP: sc-390968 HRP. Direct western blot analysis of TIP47 expression in PC-12 (A) and C6 (B) whole cell lysates and rat placenta tissue extract (C).



TIP47 (F-10): sc-390968. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Hussain, S.S., et al. 2021. RalA and PLD1 promote lipid droplet growth in response to nutrient withdrawal. *Cell Rep.* 36: 109451.
- Yako, T., et al. 2022. Lipid droplet accumulation promotes RPE dysfunction. *Int. J. Mol. Sci.* 23: 1790.
- Leitner, N., et al. 2022. Lipid droplet dynamics in healthy and pyometra-affected canine endometrium. *BMC Vet. Res.* 18: 221.
- Leitner, N., et al. 2022. Lipid droplets and perilipins in canine osteosarcoma. Investigations on tumor tissue, 2D and 3D cell culture models. *Vet. Res. Commun.* 46: 1175-1193.
- Yang, Y., et al. 2022. Moderate treadmill exercise alleviates NAFLD by regulating the biogenesis and autophagy of lipid droplet. *Nutrients* 14: 4910.

## 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.