

TIP47 (B-3): sc-390981

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.

CHROMOSOMAL LOCATION

Genetic locus: PLIN3 (human) mapping to 19p13.3.

SOURCE

TIP47 (B-3) is a mouse monoclonal antibody raised against amino acids 73-225 mapping within an internal region of TIP47 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.

TIP47 (B-3) is available conjugated to agarose (sc-390981 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390981 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390981 PE), fluorescein (sc-390981 FITC), Alexa Fluor® 488 (sc-390981 AF488), Alexa Fluor® 546 (sc-390981 AF546), Alexa Fluor® 594 (sc-390981 AF594) or Alexa Fluor® 647 (sc-390981 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390981 AF680) or Alexa Fluor® 790 (sc-390981 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

TIP47 (B-3) is recommended for detection of TIP47 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), 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).

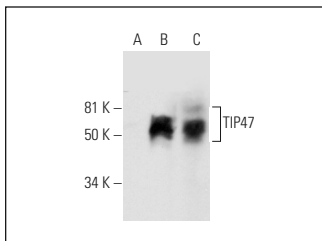
Suitable for use as control antibody for TIP47 siRNA (h): sc-44157, TIP47 shRNA Plasmid (h): sc-44157-SH and TIP47 shRNA (h) Lentiviral Particles: sc-44157-V.

Positive Controls: human placenta extract: sc-363772 or TIP47 (h): 293T Lysate: sc-175043.

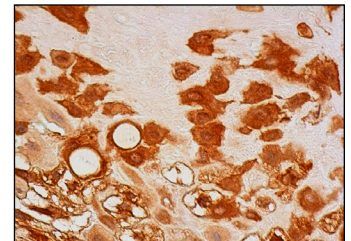
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



TIP47 (B-3): sc-390981. Western blot analysis of TIP47 expression in non-transfected: sc-117752 (A) and human TIP47 transfected: sc-175043 (B) 293T whole cell lysates and human placenta tissue extract (C).



TIP47 (B-3): sc-390981. Immunoperoxidase staining of formalin fixed, paraffin-embedded human placenta tissue showing cytoplasmic and nuclear staining of decidual cells.

SELECT PRODUCT CITATIONS

- Radif, Y., et al. 2018. The endogenous subcellular localisations of the long chain fatty acid-activating enzymes ACSL3 and ACSL4 in sarcoma and breast cancer cells. *Mol. Cell. Biochem.* 448: 275-286.
- Warde, K.M., et al. 2022. Mitotane targets lipid droplets to induce lipolysis in adrenocortical carcinoma. *Endocrinology* 163: bqac102.

RESEARCH USE

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