

TIP47 (H-153): sc-366225

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

1. Diaz, E. and Pfeffer, S.R. 1998. TIP47: a cargo selection device for mannose 6-phosphate receptor trafficking. *Cell* 93: 433-443.
2. Than, N.G., Sumegi, B., Than, G.N., Kispal, G. and Bohn, H. 1998. Cloning and sequence analysis of cDNAs encoding human placental tissue protein 17 (PP17) variants. *Eur. J. Biochem.* 258: 752-757.
3. Orsel, J.G., Sincock, P.M., Krise, J.P. and Pfeffer, S.R. 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.
4. Krise, J.P., Sincock, P.M., Orsel, J.G. and Pfeffer, S.R. 2000. Quantitative analysis of TIP47-receptor cytoplasmic domain interactions: implications for endosome-to-*trans* Golgi network trafficking. *J. Biol. Chem.* 275: 25188-25193.
5. Than, G.N., Turoczy, T., Sumegi, B., Than, N.G., Bellyei, S., Bohn, H. and Szekeres, G. 2001. Overexpression of placental tissue protein 17b/TIP47 in cervical dysplasias and cervical carcinoma. *Anticancer Res.* 21: 639-642.

CHROMOSOMAL LOCATION

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

SOURCE

TIP47 (H-153) is a rabbit polyclonal antibody raised against amino acids 73-225 mapping within an internal region of TIP47 of human origin.

PRODUCT

Each vial contains 200 µg IgG 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

TIP47 (H-153) is recommended for detection of TIP47 of 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).

TIP47 (H-153) is also recommended for detection of TIP47 in additional species, including canine.

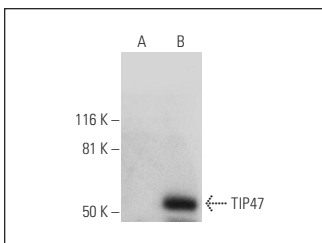
Suitable for use as control antibody for TIP47 siRNA (h): sc-44157, TIP47 shRNA Plasmid (h): sc-44157-SH and TIP47 shRNA (h) Lentiviral Particles: sc-44157-V.

Positive Controls: TIP47 (h): 293T Lysate: sc-175043.

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



TIP47 (H-153): sc-366225. Western blot analysis of TIP47 expression in non-transfected: sc-117752 (A) and human TIP47 transfected: sc-175043 (B) 293T whole cell lysates.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **TIP47 (B-3): sc-390981** or **TIP47 (F-10): sc-390968**, our highly recommended monoclonal alternatives to TIP47 (H-153).