

TIP47 (C-20)-R: sc-14726-R

BACKGROUND

Tail-interacting 47 kDa 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

- Díaz, E., et al. 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.
- Krise, J.P., et al. 2000. Quantitative analysis of TIP47-receptor cytoplasmic domain interactions: implications for endosome-to-*trans* Golgi network trafficking. *J. Biol. Chem.* 275: 25188-25193.

CHROMOSOMAL LOCATION

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

SOURCE

TIP47 (C-20)-R is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-14726 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

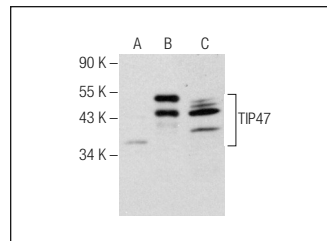
TIP47 (C-20)-R is recommended for detection of TIP47 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

TIP47 (C-20)-R is also recommended for detection of TIP47 in additional species, including canine, bovine and porcine.

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: TIP47 (h): 293T Lysate: sc-175043 or mouse placenta extract: sc-364247.

DATA



TIP47 (C-20)-R: sc-14726-R. Western blot analysis of TIP47 expression in non-transfected: sc-117752 (A) and human TIP47 transfected: sc-175043 (B) 293T whole cell lysates and mouse placenta tissue extract (C).

SELECT PRODUCT CITATIONS

- Gao, J.G., et al. 2006. Molecular screening for GS2 lipase regulators: inhibition of keratinocyte retinylester hydrolysis by TIP47. *J. Invest. Dermatol.* 126: 2087-2095.
- Chen, Y., et al. 2009. Vaccinia virus p37 interacts with host proteins associated with LE-derived transport vesicle biogenesis. *Virology* 40: 44.

RESEARCH USE

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

PROTOCOLS

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



Try **TIP47 (B-3): sc-390981** or **TIP47 (F-10): sc-390968**, our highly recommended monoclonal alternatives to TIP47 (C-20).