SANTA CRUZ BIOTECHNOLOGY, INC.

MAN1B1 (30-Y): sc-100543

BACKGROUND

MAN1B1 (mannosidase, α, class 1B, member 1), also referred to as MANA-ER or ERManI, is a widely expressed enzyme that is a member of the glycosyl hydrolase 47 family. MAN1B1 is a single-pass type II membrane protein that localizes to the endoplasmic reticulum (ER) and catalyzes the first mannose trimming step in the maturation of Asn-linked oligosaccharide biosynthesis on glycoproteins. Asn-linked oligosaccharides are important for a variety of biological functions, including cellular recognition, adhesion and protein targeting. MAN1B1 is also involved in targeting terminally misfolded or unassembled glycoproteins for degradation via the cytoplasmic ubiquitin-proteasome pathway, a process known as endoplasmic reticulum-associated protein degradation (ERAD). MAN1B1 activity requires calcium and is inhibited by either 1-deoxymannojirimycin or kifunensine, which are class I α-mannosidase inhibitors.

CHROMOSOMAL LOCATION

Genetic locus: MAN1B1 (human) mapping to 9q34.3; Man1b1 (mouse) mapping to 2 A3.

SOURCE

MAN1B1 (30-Y) is a mouse monoclonal antibody raised against recombinant MAN1B1 of human origin.

PRODUCT

Each vial contains 100 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.

RESEARCH USE

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

APPLICATIONS

MAN1B1 (30-Y) is recommended for detection of MAN1B1 of mouse, rat and 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), 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 MAN1B1 siRNA (h): sc-92479, MAN1B1 siRNA (m): sc-149244, MAN1B1 shRNA Plasmid (h): sc-92479-SH, MAN1B1 shRNA Plasmid (m): sc-149244-SH, MAN1B1 shRNA (h) Lentiviral Particles: sc-92479-V and MAN1B1 shRNA (m) Lentiviral Particles: sc-149244-V.

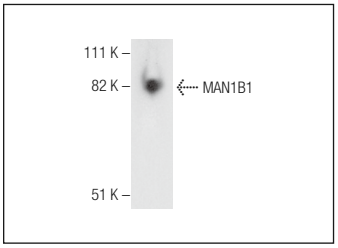
Molecular Weight of MAN1B1: 80 kDa.

Positive Controls: LNCaP cell lysate: sc-2231, Hep G2 cell lysate: sc-2227 or A-431 whole cell lysate: sc-2201.

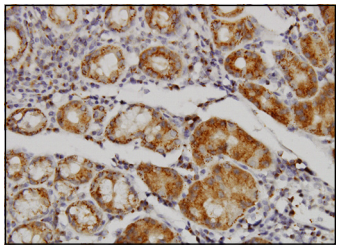
RECOMMENDED SUPPORT REAGENTS

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



MAN1B1 (30-Y): sc-100543. Western blot analysis of MAN1B1 expression in LNCaP whole cell lysate.



MAN1B1 (30-Y): sc-100543. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human stomach tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Singh, M., et al. 2012. Ubiquitin-proteasomal degradation of COX-2 in TGF-β stimulated human endometrial cells is mediated through endoplasmic reticulum mannosidase I. Endocrinology 153: 426-437.
2. Voss, M., et al. 2014. Shedding of glycan-modifying enzymes by signal peptide peptidase-like 3 (SPPL3) regulates cellular N-glycosylation. EMBO J. 33: 2890-2905.
3. Benyair, R. and Lederkremer, G.Z. 2016. Common fixation-permeabilization methods cause artifactual localization of a type II transmembrane protein. Microscopy 65: 517-521.

PROTOCOLS

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