SANTA CRUZ BIOTECHNOLOGY, INC.

MAN1B1 (E-10): sc-393145

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (E-10) is a mouse monoclonal antibody raised against amino acids 471-657 mapping near the C-terminus of MAN1B1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MAN1B1 (E-10) is available conjugated to agarose (sc-393145 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393145 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393145 PE), fluorescein (sc-393145 FITC), Alexa Fluor® 488 (sc-393145 AF488), Alexa Fluor® 546 (sc-393145 AF546), Alexa Fluor® 594 (sc-393145 AF594) or Alexa Fluor® 647 (sc-393145 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393145 AF680) or Alexa Fluor® 790 (sc-393145 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

MAN1B1 (E-10) is recommended for detection of MAN1B1 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) 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.

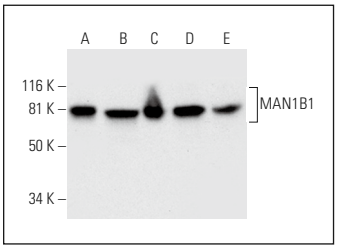
Molecular Weight of MAN1B1: 80 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, Hep G2 cell lysate: sc-2227 or HeLa whole cell lysate: sc-2200.

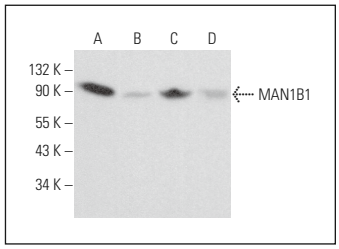
RECOMMENDED SUPPORT REAGENTS

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.

DATA



MAN1B1 (E-10): sc-393145. Western blot analysis of MAN1B1 expression in A-431 (**A**), Hep G2 (**B**), LNCaP (**C**), HeLa (**D**) and NTERA-2 cl.D1 (**E**) whole cell lysates.



MAN1B1 (E-10): sc-393145. Western blot analysis of MAN1B1 expression in Hep G2 (**A**), L6 (**B**), A-673 (**C**) and MOLT-4 (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chiritoiu, M., et al. 2020. EDEM1 drives misfolded protein degradation via ERAD and exploits ER-phagy as back-up mechanism when ERAD is impaired. Int. J. Mol. Sci. 21: 3468.
2. Manica, G., et al. 2021. EDEM3 domains cooperate to perform its overall cell functioning. Int. J. Mol. Sci. 22: 2172.

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.

PROTOCOLS

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