

# MAN2A2 (H-74): sc-292353

## BACKGROUND

The  $\alpha$ -mannosidases (designated MAN1A1, MAN1A2, MAN2A1 and MAN2A2) comprise a group of soluble proteins that localize to the endoplasmic reticulum, the Golgi apparatus or the cytoplasm. Depending on their cellular location, these proteins are involved in either the processing or the degradation of newly synthesized N-glycans. MAN2A2 (mannosidase  $\alpha$  class 2A member 2), also known as MAN2X, is a 1,150 amino acid single-pass type II membrane protein that localizes to the Golgi apparatus and exists as 3 alternatively spliced isoforms. As a disulfide-linked homodimer, MAN2A2 catalyzes the first committed step in the biosynthesis of complex N-glycans by controlling the conversion of high mannose to complex N-glycans. The gene that encodes MAN2A2 consists of approximately 18,396 bases and maps to human chromosome 15q26.1.

## REFERENCES

- Robinson, W.E., et al. 1987. Evidence that mannosyl residues are involved in human immunodeficiency virus type 1 (HIV-1) pathogenesis. *AIDS Res. Hum. Retroviruses* 3: 265-282.
- Montefiori, D.C., et al. 1988. Role of protein N-glycosylation in pathogenesis of human immunodeficiency virus type 1. *Proc. Natl. Acad. Sci. USA* 85: 9248-9252.
- Knoll, J.H., et al. 1989. Angelman and Prader-Willi syndromes share a common chromosome 15 deletion but differ in parental origin of the deletion. *Am. J. Med. Genet.* 32: 285-290.
- Yeh, J.C., et al. 1993. Site-specific N-glycosylation and oligosaccharide structures of recombinant HIV-1 gp120 derived from a baculovirus expression system. *Biochemistry* 32: 11087-11099.
- Hurowitz, G.I., et al. 1993. Neuropsychiatric aspects of adult-onset Tay-Sachs disease: two case reports with several new findings. *J. Neuropsychiatry Clin. Neurosci.* 5: 30-36.
- Misago, M., et al. 1995. Molecular cloning and expression of cDNAs encoding human  $\alpha$ -mannosidase II and a previously unrecognized  $\alpha$ -mannosidase IIx isozyme. *Proc. Natl. Acad. Sci. USA* 92: 11766-11770.
- Bolmstedt, A., et al. 1996. Influence of N-linked glycans in V4-V5 region of human immunodeficiency virus type 1 glycoprotein gp160 on induction of a virus-neutralizing humoral response. *J. Acquir. Immune Defic. Syndr. Hum. Retrovirol.* 12: 213-220.

## CHROMOSOMAL LOCATION

Genetic locus: MAN2A2 (human) mapping to 15q26.1; Man2a2 (mouse) mapping to 7 D3.

## SOURCE

MAN2A2 (H-74) is a rabbit polyclonal antibody raised against amino acids 68-141 mapping near the N-terminus of MAN2A2 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

MAN2A2 (H-74) is recommended for detection of MAN2A2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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); non cross-reactive with other MAN family members.

MAN2A2 (H-74) is also recommended for detection of MAN2A2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MAN2A2 siRNA (h): sc-106194, MAN2A2 siRNA (m): sc-106195, MAN2A2 shRNA Plasmid (h): sc-106194-SH, MAN2A2 shRNA Plasmid (m): sc-106195-SH, MAN2A2 shRNA (h) Lentiviral Particles: sc-106194-V and MAN2A2 shRNA (m) Lentiviral Particles: sc-106195-V.

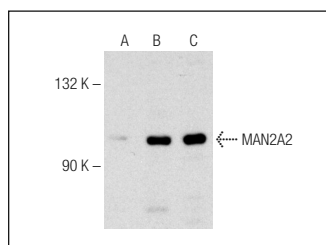
Molecular Weight of MAN2A2 isoforms: 129/91/131 kDa.

Positive Controls: MAN2A2 (m): 293T Lysate: sc-127122 or HeLa whole cell lysate: sc-2200.

## 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



MAN2A2 (H-74): sc-292353. Western blot analysis of MAN2A2 expression in non-transfected 293T: sc-117752 (A), mouse MAN2A2 transfected 293T: sc-127122 (B) and HeLa (C) whole cell lysates.

## 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.