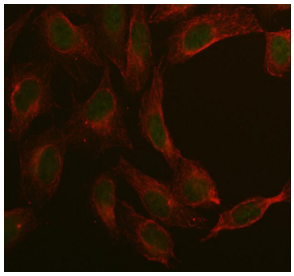
MAN2C1 Antibody / Mannosidase alpha class 2C member 1 (FY12341)

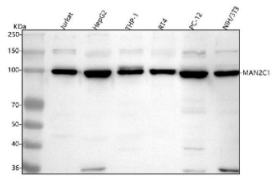
Catalog No.	Formulation	Size
FY12341	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

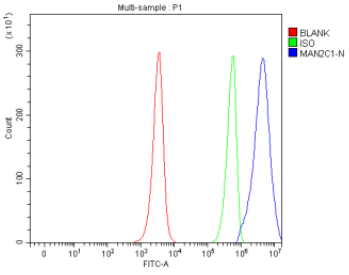
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9NTJ4
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This MAN2C1 antibody is available for research use only.



Immunofluorescent staining of MAN2C1 using anti-MAN2C1 antibody (green) and anti-Beta Tubulin antibody (red). MAN2C1 was detected in immunocytochemical section of U2OS cell. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-MAN2C1 antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight 594 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of MAN2C1 using anti-MAN2C1 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human HepG2 whole cell lysates, Lane 3: human THP-1 whole cell lysates, Lane 4: human RT4 whole cell lysates, Lane 5: rat PC-12 whole cell lysates, Lane 6: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MAN2C1 antibody at 0.25 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. The expected molecular weight of MAN2C1 is 105-117 kDa (multiple isoforms).



Flow Cytometry analysis of JK cells using anti-MAN2C1 antibody. Overlay histogram showing JK cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-MAN2C1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Description

The MAN2C1 antibody targets Mannosidase alpha class 2C member 1, an essential enzyme in the catabolic pathway of N-linked glycoproteins. Encoded by the MAN2C1 gene, this cytosolic alpha-mannosidase hydrolyzes terminal mannose residues from oligosaccharides generated during glycoprotein degradation. Through this process, Mannosidase alpha class 2C member 1 participates in the recycling of glycan intermediates and maintenance of carbohydrate homeostasis within cells. The MAN2C1 antibody enables researchers to study this crucial enzyme's distribution, enzymatic regulation, and contribution to cellular metabolism.

Mannosidase alpha class 2C member 1 is expressed in a wide range of tissues, including liver, kidney, and brain, where it contributes to the breakdown of misfolded glycoproteins following endoplasmic reticulumÃ¯Â¿Â½associated degradation (ERAD). As improperly folded glycoproteins are retro-translocated to the cytosol for proteasomal degradation, MAN2C1 helps trim mannose residues from liberated oligosaccharides. This function is key for maintaining protein quality control and preventing toxic accumulation of misprocessed glycans. The MAN2C1 antibody is frequently employed in studies focused on carbohydrate metabolism, glycoprotein turnover, and the molecular mechanisms that connect glycan processing with proteostasis.

In addition to its metabolic role, Mannosidase alpha class 2C member 1 has been implicated in cell signaling and tumor biology. Evidence suggests that overexpression of MAN2C1 may suppress PTEN activity and promote oncogenic signaling through the AKT pathway. Conversely, reduced enzyme expression can influence apoptosis sensitivity and cell-cycle regulation. These findings highlight the enzyme's dual role as both a metabolic and signaling regulator. The MAN2C1 antibody allows scientists to quantify these expression changes and assess proteinÃ¯Â¿Â½protein interactions that link glycan metabolism to oncogenesis.

Experimental use of the MAN2C1 antibody includes western blotting for protein detection, immunofluorescence for subcellular localization, and immunohistochemistry for tissue-level expression mapping. The enzyme is mainly cytoplasmic but may associate with endoplasmic reticulum membranes under certain physiological conditions. Researchers utilize the MAN2C1 antibody to characterize these distribution patterns and examine how post-translational modifications affect enzyme stability and activity.

Because glycoprotein metabolism influences immune recognition and cellular signaling, Mannosidase alpha class 2C member 1 has become an attractive research target across immunology, cancer, and metabolic disease. The MAN2C1

antibody provided by NSJ Bioreagents offers high specificity and reproducibility, supporting detailed investigation into glycan degradation pathways and their links to cellular health. By enabling consistent detection of this enzyme, the MAN2C1 antibody contributes to ongoing research that clarifies how mannose trimming supports homeostasis and how its dysregulation contributes to pathology.

Application Notes

Optimal dilution of the MAN2C1 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MAN2C1 recombinant protein (Position: A176-Q1027) was used as the immunogen for the MAN2C1 antibody.

Storage

After reconstitution, the MAN2C1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.