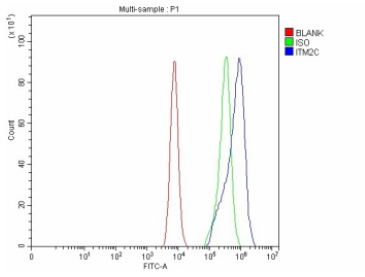
ITM2C Antibody / Integral membrane protein 2C (FY12849)

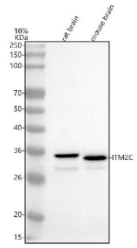
Catalog No.	Formulation	Size
FY12849	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

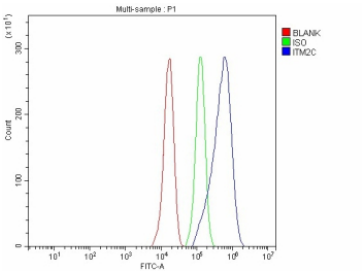
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9NQX7
Applications	Western Blot : 0.25-0.5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This ITM2C antibody is available for research use only.



Flow Cytometry analysis of CACO-2 cells using anti-ITM2C antibody. Overlay histogram showing CACO-2 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ITM2C 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of ITM2C using anti-ITM2C antibody. Lane 1: rat brain tissue lysates, Lane 2: mouse brain tissue 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-ITM2C antibody at 0.5 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. ITM2C western blot of rat and mouse brain shows a predominant band at ~35 kDa and a minor band at ~30 kDa, consistent with glycosylated and unglycosylated forms of ITM2C, respectively.



Flow Cytometry analysis of PC-3 cells using anti-ITM2C antibody. Overlay histogram showing PC-3 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-ITM2C 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 without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

Description

ITM2C antibody detects Integral membrane protein 2C, a type II transmembrane protein implicated in neuronal differentiation, amyloid precursor protein (APP) metabolism, and synaptic maintenance. Encoded by the ITM2C gene on chromosome 11q25, this protein belongs to the BRICHOS superfamily, whose members are involved in protein folding, trafficking, and neuroprotection. ITM2C is highly expressed in the central nervous system, particularly in the hippocampus and cerebral cortex, where it contributes to synaptic function and neuroplasticity.

Structurally, ITM2C contains a short cytoplasmic N-terminal tail, a single transmembrane domain, and a large luminal BRICHOS domain that assists in proper folding of amyloidogenic proteins. ITM2C interacts with APP and modulates its processing by influencing the activity of secretases, thereby reducing amyloid beta peptide production. This regulatory function positions ITM2C as a potential protective factor against neurodegenerative diseases such as Alzheimer's disease.

The ITM2C antibody is widely used in neuroscience and neurodegeneration research to study synaptic organization, APP metabolism, and BRICHOS domain biology. Western blot analysis detects a 30 kilodalton band corresponding to ITM2C, while immunofluorescence reveals Golgi and vesicular localization within neurons and glial cells. This antibody supports investigations into the cellular pathways controlling amyloid processing and synaptic stability.

Loss or dysregulation of ITM2C has been associated with cognitive decline and neuroinflammation. Reduced expression leads to impaired APP trafficking and enhanced amyloid accumulation, while overexpression protects against oxidative and excitotoxic stress. Beyond the brain, ITM2C is expressed in pancreatic islets, suggesting additional roles in endocrine regulation. The ITM2C antibody provides a powerful tool for elucidating mechanisms of protein homeostasis and synaptic maintenance in health and disease. NSJ Bioreagents validates this antibody for its applications, ensuring accurate and consistent performance in neurobiology research.

Application Notes

Optimal dilution of the ITM2C antibody should be determined by the researcher.

Immunogen

E.coli-derived human ITM2C recombinant protein (Position: E33-D226) was used as the immunogen for the ITM2C antibody.

Storage

After reconstitution, the ITM2C antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.