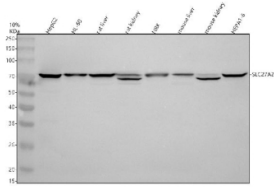
SLC27A2 Antibody / FATP2 (FY12876)

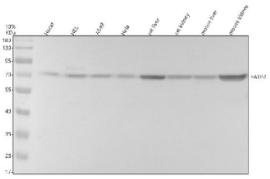
Catalog No.	Formulation	Size
FY12876	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

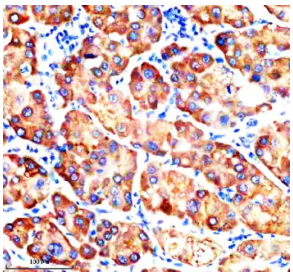
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	O14975
Localization	Cytoplasm (ER), cell membrane
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This SLC27A2 antibody is available for research use only.



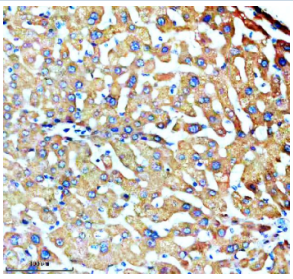
Western blot analysis of SLC27A2 using anti-SLC27A2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human HepG2 whole cell lysates, Lane 2: human HL-60 whole cell lysates, Lane 3: rat liver tissue lysates, Lane 4: rat kidney tissue lysates, Lane 5: rat NRK whole cell lysates, Lane 6: mouse liver tissue lysates Lane 7: mouse kidney tissue lysates, Lane 8: mouse HEPA1-6 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-SLC27A2 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 an ECL Plus Western Blotting Substrate. SLC27A2 western blot across tissues shows the expected ~70 kDa band and a consistent lower band in mouse and rat kidney, consistent with co-expression of the FATP2a and FATP2b splice isoforms and minor PTM-dependent mobility differences.



Western blot analysis of SLC27A2 using anti-SLC27A2 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human Hacat whole cell lysates, Lane 2: human HEL whole cell lysates, Lane 3: human whole cell lysates, Lane 4: human Hela whole cell lysates, Lane 5: rat liver tissue lysates, Lane 6: rat kidney tissue lysates, Lane 7: mouse liver tissue lysates, Lane 8: mouse kidney 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-SLC27A2 antibody at 1: 1000 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 an ECL Plus Western Blotting Substrate. A specific band was detected for SLC27A2 at approximately 70 kDa. The expected molecular weight of SLC27A2 is ~70 kDa.



Immunohistochemical staining of SLC27A2 using anti-SLC27A2 antibody. SLC27A2 was detected in a paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-SLC27A2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



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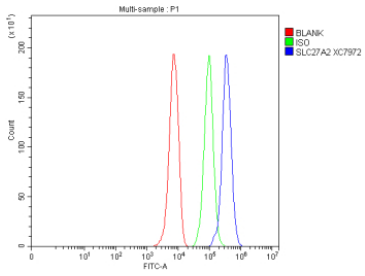

Flow Cytometry analysis of HepG2 cells using anti-SLC27A2 antibody. Overlay histogram showing HepG2 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-SLC27A2 antibody (1 ug/million cells) for 30 min 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

SLC27A2 antibody detects Long-chain fatty acid transport protein 2 (FATP2), an enzyme and transporter that mediates cellular uptake and activation of long-chain and very-long-chain fatty acids. Encoded by the SLC27A2 gene on chromosome 15q21.2, this bifunctional protein possesses both acyl-CoA synthetase and membrane transporter activity, coupling fatty acid import with activation into acyl-CoA thioesters. FATP2 plays a central role in lipid metabolism, peroxisomal beta-oxidation, and energy balance.

Structurally, FATP2 is an integral membrane protein of approximately 70 kilodaltons containing an AMP-binding domain and a transmembrane domain that anchors it to the endoplasmic reticulum and peroxisomal membranes. By simultaneously transporting and esterifying fatty acids, FATP2 ensures efficient channeling of lipids into metabolic and anabolic pathways. It exhibits substrate preference for long-chain and polyunsaturated fatty acids, regulating lipid composition in liver and kidney tissues where it is abundantly expressed.

The SLC27A2 antibody is widely used in lipid metabolism, endocrinology, and mitochondrial research to study fatty acid transport, oxidation, and storage. Western blot analysis detects a 70 kilodalton band corresponding to FATP2, while immunofluorescence reveals peroxisomal and ER-associated staining. This antibody is an essential reagent for investigating lipid homeostasis and the mechanisms linking fatty acid uptake to metabolic regulation.

FATP2 expression is upregulated in metabolic and inflammatory conditions, including nonalcoholic fatty liver disease and insulin resistance. Its deficiency disrupts fatty acid activation and leads to altered lipid accumulation, oxidative stress, and impaired peroxisomal function. In cancer cells, FATP2 supports rapid proliferation by promoting fatty acid uptake and lipid synthesis, making it a potential therapeutic target in metabolic oncology. The SLC27A2 antibody provides a reliable tool for detecting FATP2 expression, studying fatty acid channeling, and evaluating its role in disease-associated metabolic remodeling. NSJ Bioreagents validates this antibody for its applications, ensuring accurate and reproducible results for lipid and peroxisomal research.

Application Notes

Optimal dilution of the SLC27A2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human FATP2/SLC27A2 recombinant protein (Position: F27-D608) was used as the immunogen for the SLC27A2 antibody.

Storage

After reconstitution, the SLC27A2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.