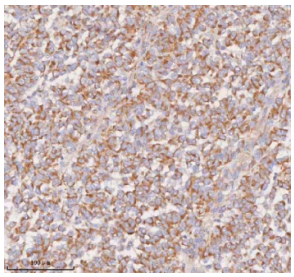
SLC14A1 Antibody / Urea Transporter B Polyclonal Antibody (FY12373)

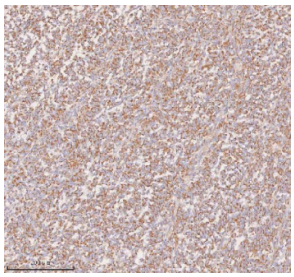
Catalog No.	Formulation	Size
FY12373	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

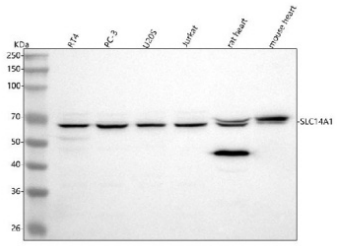
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q13336
RRID	AB_3758400
Applications	ELISA: 0.1-0.5ug/ml Immunohistochemistry: 2-5ug/ml Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This SLC14A1 Antibody / Urea Transporter B Polyclonal Antibody is available for research use only.



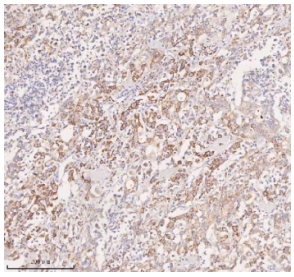
SLC14A1 Antibody IHC in Human Melanoma. Immunohistochemical staining of FFPE human melanoma tissue using the Urea Transporter B Polyclonal Antibody at 2 ug/ml. Predominantly cytoplasmic and membranous staining is observed in numerous cells, with variable staining intensity. Heat-induced epitope retrieval was performed using EDTA buffer, pH 8.0, followed by overnight primary antibody incubation at 4Â°C and HRP-DAB detection.



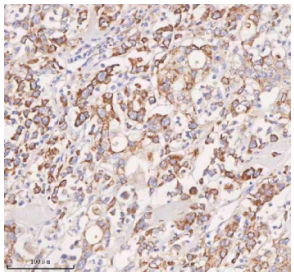
Immunohistochemical staining of SLC14A1 using anti-SLC14A1 antibody. SLC14A1 was detected in a paraffin-embedded section of human melanoma tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-SLC14A1 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.



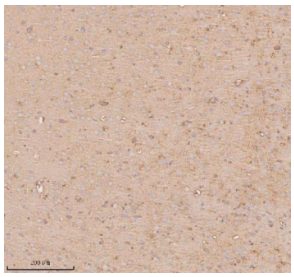
SLC14A1 Antibody WB in Human Cell Lines and Rodent Heart. Western blot analysis using the Urea Transporter B Polyclonal Antibody at 0.5 ug/ml. Lane 1: human RT4; lane 2: human PC-3; lane 3: human U2OS; lane 4: human Jurkat; lane 5: rat heart; lane 6: mouse heart. Bands are detected predominantly around 60-70 kDa, with an additional prominent band near 45 kDa in rat heart. SLC14A1 has a predicted molecular weight of approximately 43 kDa, while higher apparent molecular weights have been reported for glycosylated UT-B.



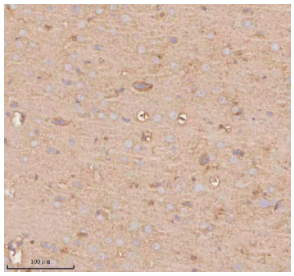
Immunohistochemical staining of SLC14A1 using anti-SLC14A1 antibody. SLC14A1 was detected in a paraffin-embedded section of human pancreatic cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-SLC14A1 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.



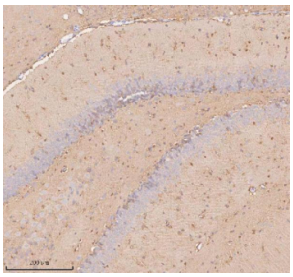
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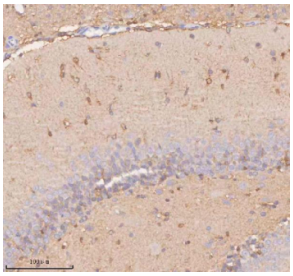
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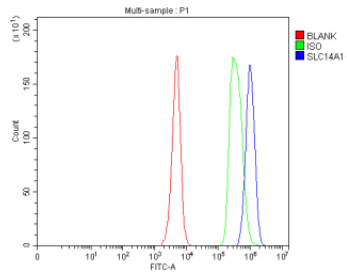
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SLC14A1 Antibody FACS in JK Cells. Flow cytometry analysis of PFA-fixed JK cells using the Urea Transporter B Polyclonal Antibody at 1 ug per million cells, followed by DyLight 488-conjugated goat anti-rabbit IgG. The antibody-stained population (blue) shows a rightward fluorescence shift relative to the rabbit IgG isotype control (green) and unstained control (red), indicating SLC14A1 detection.

Description

The SLC14A1 Antibody / Urea Transporter B Polyclonal Antibody recognizes solute carrier family 14 member 1, a membrane transport protein commonly known as urea transporter B (UT-B). Encoded by the SLC14A1 gene, UT-B facilitates the passive movement of urea across cell membranes according to concentration gradients. This transport activity is essential for maintaining urea permeability in erythrocytes and contributes to renal concentrating mechanisms. SLC14A1 belongs to the SLC14 family of urea transporters, which also includes the UT-A proteins encoded by the distinct SLC14A2 gene.

UT-B is particularly abundant in red blood cells, where it enables rapid equilibration of urea between the intracellular and extracellular environments. This permeability helps erythrocytes tolerate changes in urea concentration as they circulate through tissues with different osmotic conditions. SLC14A1 also carries the antigens of the Kidd blood group system, including Jka and Jkb. Individuals with the rare Jk(a-b-) phenotype generally lack functional UT-B expression in erythrocytes, resulting in markedly reduced urea permeability. This relationship connects membrane transport physiology with clinically important blood group characteristics.

In the kidney, UT-B is expressed in the descending vasa recta, where it contributes to countercurrent exchange and the preservation of the medullary osmotic gradient. Urea recycling is important for concentrating urine, particularly during water conservation. By facilitating urea movement between blood and the renal interstitium, UT-B helps limit the dissipation of medullary urea. Studies involving UT-B-deficient animals have demonstrated impaired urinary concentrating ability, highlighting the transporter's physiological contribution to renal water balance.

Beyond erythrocytes and the kidney, SLC14A1 expression has been investigated in the urinary tract and other tissues. Genetic variation at the SLC14A1 locus has also been associated with susceptibility to bladder cancer, although the underlying biological mechanisms remain incompletely understood. These findings have expanded interest in UT-B beyond its established transport functions. NSJ Bioreagents offers this SLC14A1 Antibody for investigating urea transporter expression and distribution in relation to erythrocyte physiology, renal concentrating mechanisms, and urinary

tract biology.

Explore related proteins involved in solute transport, nitrogen handling, and cellular metabolic regulation in our Metabolism Antibodies collection.

Application Notes

Optimal dilution of the SLC14A1 Antibody / Urea Transporter B Polyclonal Antibody should be determined by the researcher.

Immunogen

E.coli-derived human UT-B/SLC14A1 recombinant protein (Position: M1-L389) was used as the immunogen for the SLC14A1 antibody.

Storage

After reconstitution, the SLC14A1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

UT-B antibody, Urea Transporter 1 antibody, Urea Transporter B antibody, Kidd Blood Group Urea Transporter antibody, UT-B1 antibody

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