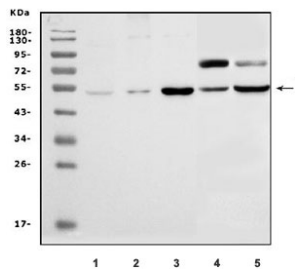
UT-B Antibody / SLC14A1 Polyclonal Antibody (RQ6116)

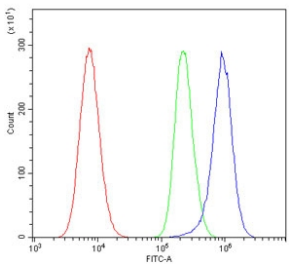
Catalog No.	Formulation	Size
RQ6116	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	Q8VHL0
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells
Limitations	This UT-B Antibody / SLC14A1 Polyclonal Antibody is available for research use only.



UT-B Antibody WB in Mouse and Rat Tissues. Western blot analysis using the SLC14A1 Polyclonal Antibody. Lane 1: mouse kidney; lane 2: mouse skeletal muscle; lane 3: mouse heart; lane 4: rat heart; lane 5: rat kidney. A band near 55 kDa is detected across all five samples, with additional prominent bands around 75-80 kDa in the rat tissues. The predicted molecular weight of SLC14A1 is approximately 42-54 kDa, depending on glycosylation. Higher-molecular-weight forms may reflect additional glycosylation, although the identity of the upper bands has not been established.



UT-B Antibody FACS in Mouse HEPA1-6 Cells. Flow cytometry analysis of mouse HEPA1-6 cells using the SLC14A1 Polyclonal Antibody at 1 ug per million cells following blocking with goat serum. The antibody-stained population (blue) shows a clear rightward fluorescence shift relative to the isotype control (green) and unstained cells (red), indicating SLC14A1 detection.

Description

The UT-B Antibody / SLC14A1 Polyclonal Antibody recognizes urea transporter B, a membrane protein encoded by the SLC14A1 gene. UT-B belongs to the solute carrier family 14 and facilitates passive urea movement across cell membranes according to concentration gradients. Unlike the UT-A transporters encoded by SLC14A2, UT-B is particularly important in erythrocyte urea permeability and renal vascular transport. Its activity enables rapid equilibration of urea between intracellular and extracellular compartments, helping cells respond to changing osmotic environments.

In the kidney, UT-B is expressed primarily in endothelial cells of the descending vasa recta, where it contributes to countercurrent exchange within the renal medulla. These specialized blood vessels transport water and solutes while helping preserve the osmotic gradient required for urine concentration. By facilitating urea exchange between circulating blood and the medullary interstitium, UT-B helps limit the loss of urea from the renal concentrating system. Studies involving Slc14a1-deficient mice have demonstrated impaired urinary concentrating ability, establishing an important physiological role for this transporter in renal water conservation.

UT-B is also highly expressed in erythrocytes, where it provides a pathway for rapid urea transport across the plasma membrane. The protein carries antigens of the Kidd blood group system, including Jka and Jkb. Individuals with the rare Jk(a-b-) phenotype generally lack functional erythrocyte UT-B and exhibit markedly reduced urea permeability. This relationship between membrane transport and blood group antigen expression has made SLC14A1 an important subject in both renal physiology and erythrocyte biology.

Beyond its established functions in blood and kidney, UT-B expression has been investigated in the urinary tract and other tissues. Genetic variation within the SLC14A1 locus has been associated with bladder cancer susceptibility, although the mechanisms connecting transporter function with tumor development remain incompletely understood. Experimental studies using rodent models have also examined the consequences of altered UT-B expression for renal concentrating ability and systemic urea handling. NSJ Bioreagents offers this UT-B Antibody for investigating urea transporter expression in relation to renal physiology, erythrocyte permeability, and nitrogen homeostasis.

For additional research options, explore our SLC14A1 Antibody, which recognizes UT-B and has been evaluated across multiple species and experimental applications.

Application Notes

Optimal dilution of the UT-B Antibody / SLC14A1 Polyclonal Antibody should be determined by the researcher.

Immunogen

Amino acids DMKEFANWLKDKPVVLQFMD from the mouse protein were used as the immunogen for the SLC14A1 / UT-B antibody.

Storage

After reconstitution, the SLC14A1 / UT-B 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

Urea Transporter B antibody, SLC14A1 antibody, Urea Transporter 1 antibody, Kidd Blood Group Urea Transporter antibody, UT-B1 antibody

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