

# UT-B (O-24): sc-134144

## BACKGROUND

The Kidd antigen system (also referred to as the JK antigen system) exists on the membrane of red blood cells (erythrocytes) and is responsible for urea transport and blood type determination. On the surface of red blood cells, JK antigens (which exist as two alleles, designated JK<sup>a</sup> and JK<sup>b</sup>) are associated with a protein, known as UT-B, whose function is to mediate urea transport in kidneys and erythrocytes. UT-B, also known as SLC14A (solute carrier family 14 (urea transporter), member 1 (Kidd blood group)), JK, UT1, UTE, HUT11 or RACH1, is a 389 amino acid multi-pass membrane protein that exists as a low-affinity urea transporter and is responsible for determination of JK alleles. The gene encoding UT-B maps to human chromosome 18, which houses over 300 protein-coding genes and contains nearly 76 million bases.

## REFERENCES

- Geitvik, G.A., et al. 1987. The Kidd (JK) blood group locus assigned to chromosome 18 by close linkage to a DNA-RFLP. *Hum. Genet.* 77: 205-209.
- Olivès, B., et al. 1994. Cloning and functional expression of a urea transporter from human bone marrow cells. *J. Biol. Chem.* 269: 31649-31652.
- Olivès, B., et al. 1995. Kidd blood group and urea transport function of human erythrocytes are carried by the same protein. *J. Biol. Chem.* 270: 15607-15610.
- Olivès, B., et al. 1996. Molecular characterization of a new urea transporter in the human kidney. *FEBS Lett.* 386: 156-160.
- Olivès, B., et al. 1997. The molecular basis of the Kidd blood group polymorphism and its lack of association with type 1 diabetes susceptibility. *Hum. Mol. Genet.* 6: 1017-1020.
- Lucien, N., et al. 1998. Characterization of the gene encoding the human Kidd blood group/urea transporter protein. Evidence for splice site mutations in Jknull individuals. *J. Biol. Chem.* 273: 12973-12980.

## CHROMOSOMAL LOCATION

Genetic locus: SLC14A1 (human) mapping to 18q12.3.

## SOURCE

UT-B (O-24) is an affinity purified rabbit polyclonal antibody raised against synthetic UT-B peptide of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

UT-B (O-24) is recommended for detection of UT-B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for UT-B siRNA (h): sc-76877, UT-B shRNA Plasmid (h): sc-76877-SH and UT-B shRNA (h) Lentiviral Particles: sc-76877-V.

Molecular Weight (predicted) of UT-B: 43 kDa.

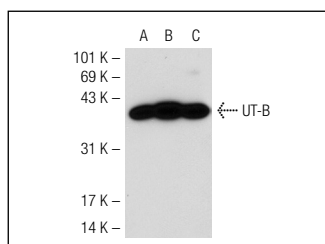
Molecular Weight (observed) of UT-B: 40 kDa.

Positive Controls: UT-B (m): 293T Lysate: sc-124504, HEL 92.1.7 cell lysate: sc-2270 or Jurkat whole cell lysate: sc-2204.

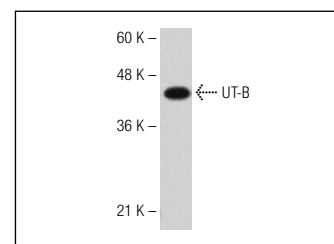
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



UT-B (O-24): sc-134144. Western blot analysis of UT-B expression in non-transfected 293T: sc-117752 (A), mouse UT-B transfected 293T: sc-124504 (B) and HEL 92.1.7 (C) whole cell lysates.



UT-B (O-24): sc-134144. Western blot analysis of UT-B expression in Jurkat whole cell lysate.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.