

# MATE2 (L-13): sc-133394

## BACKGROUND

Transporters are expressed in a wide variety of tissues where they perform the critical function of enabling anionic and cationic chemicals of exogenous and endogenous origin to cross otherwise impermeable cell membranes. The multi-drug and toxin extrusion (MATE) transporters mediate cellular efflux of a variety of organic cations, including many drugs. The MATE family of transporters is involved in excretion of toxic electrolytes through urine and bile. The MATE family share homology with the bacterial MATE protein family responsible for drug resistance. MATE2 (multi-drug and toxin extrusion 2), also known as MATE2K, MATE2-B, MATE2-K or SLC47A2, is a 602 amino acid multi-pass membrane protein belonging to the MATE family that localizes to the brush border membrane of proximal tubules. Considered an H<sup>+</sup>-organic cation antiporter, MATE2 is responsible for the secretion of cationic drugs across the brush border membranes. MATE2 is expressed as six isoforms produced by alternative splicing events.

## REFERENCES

- Masuda, S., et al. 2006. Identification and functional characterization of a new human kidney-specific H<sup>+</sup>/organic cation antiporter, kidney-specific multidrug and toxin extrusion 2. *J. Am. Soc. Nephrol.* 17: 2127-2135.
- Zhang, X., et al. 2007. Molecular identification and functional characterization of rabbit MATE1 and MATE2-K. *Am. J. Physiol. Renal Physiol.* 293: F360-F370.
- Tanihara, Y., et al. 2007. Substrate specificity of MATE1 and MATE2-K, human multidrug and toxin extrusions/H<sup>+</sup>-organic cation antiporters. *Biochem. Pharmacol.* 74: 359-371.
- Koepsell, H., et al. 2007. Polyspecific organic cation transporters: structure, function, physiological roles, and biopharmaceutical implications. *Pharm. Res.* 24: 1227-1251.
- Terada, T. and Inui, K. 2008. Physiological and pharmacokinetic roles of H<sup>+</sup>/organic cation antiporters (MATE/SLC47A). *Biochem. Pharmacol.* 75: 1689-1696.

## CHROMOSOMAL LOCATION

Genetic locus: SLC47A2 (human) mapping to 17p11.2.

## SOURCE

MATE2 (L-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of MATE2 of human origin.

## STORAGE

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

## PROTOCOLS

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

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133394 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

MATE2 (L-13) is recommended for detection of MATE2 isoforms 1, 3 and 4 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with MATE2- 2, MATE2-5 or MATE2-6.

Suitable for use as control antibody for MATE2 siRNA (h): sc-93948, MATE2 shRNA Plasmid (h): sc-93948-SH and MATE2 shRNA (h) Lentiviral Particles: sc-93948-V.

Molecular Weight of MATE2: 40 kDa.

Positive Controls: 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.

## RESEARCH USE

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