

#14550 Store at -20°C

MATE1/SLC47A1 (D4C6Z) Rabbit mAb



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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	48-52	Rabbit IgG	#Q96FL8	55244

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. *Do not aliquot the antibody.*

Specificity / Sensitivity

MATE1/SLC47A1 (D4C6Z) Rabbit mAb recognizes endogenous levels of total MATE1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu505 of human MATE1 protein.

Background

The multidrug and toxin extrusion protein 1 (MATE1, SLC47A1) is a proton-coupled, organic cation antiporter located at the apical membrane of proximal kidney epithelial cells and the canalicular membrane of hepatocytes (1). MATE1 mediates the secretion of organic cations including drugs, toxins, and endogenous metabolites, into bile and urine (2,3). Substrates of MATE1 include multiple therapeutic agents, including metformin, cisplatin, acyclovir, and cephalexin (4,5). Polymorphisms in the corresponding *SLC47A1* gene may affect the rate of renal clearance of certain cationic drugs, limiting the therapeutic benefits of these agents (6). Specifically, research studies demonstrate that *SLC47A1* allelic variation correlates with differences in renal clearance rates of metformin (7), which may have an effect on the therapeutic impact of this drug in individuals diagnosed with type 2 diabetes (8).

Background References

1. Otsuka, M. et al. (2005) *Proc Natl Acad Sci U S A* 102, 17923-8.
2. Omote, H. et al. (2006) *Trends Pharmacol Sci* 27, 587-93.
3. Motohashi, H. and Inui, K. (2013) *AAPS J* 15, 581-8.
4. Tanihara, Y. et al. (2007) *Biochem Pharmacol* 74, 359-71.
5. Hume, W.E. et al. (2013) *Bioorg Med Chem* 21, 7584-90.
6. Staud, F. et al. (2013) *Int J Biochem Cell Biol* 45, 2007-11.
7. Christensen, M.M. et al. (2013) *Pharmacogenet Genomics* 23, 526-34.
8. Becker, M.L. et al. (2009) *Diabetes* 58, 745-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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