Revision 3

#20112 Store at -20C

AE1/SLC4A1 (D3X1R) Rabbit mAb (IF Formulated)

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IF-F, IF-IC	H M R	Endogenous	Rabbit IgG	#P02730	6521

Product Usage Information

Application	Dilution
Immunofluorescence (Frozen)	1:200
Immunofluorescence (Immunocytochemistry)	1:200

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

AE1/SLC4A1 (D3X1R) Rabbit mAb (IF Formulated) recognizes endogenous levels of total AE1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ala176 of human AE1 protein.

Background

Anion exchange protein 1 (AE1), also named solute carrier family 4 member 1 (SLC4A1), is an anion transporter that mediates chloride-bicarbonate exchange in the kidney and regulates normal acidification of the urine (1,2). A different isoform of AE1 is a major integral membrane structure protein of erythrocytes, where it plays a critical role in the removal of carbon dioxide from tissues (3). In addition, AE1 is required for normal flexibility and stability of the erythrocyte membrane. Mutations in *SLC4A1* can lead to hereditary spherocytosis, ovalocytosis, and distal renal tubular-acidosis (4-7). Other mutations that do not cause disease became novel blood group antigens, which are part of the Diego blood group system (8).

Background References

1. Kopito, R.R. and Lodish, H.F. *Nature* 316, 234-8.
2. Kollert-Jöns, A. et al. (1993) *Am J Physiol* 265, F813-21.
3. Swenson, E.R. et al. (1993) *J Appl Physiol (1985)* 74, 838-48.
4. Jarolim, P. et al. (1991) *Proc Natl Acad Sci U S A* 88, 11022-6.
5. Maillet, P. et al. (1995) *Br J Haematol* 91, 804-10.
6. Quilty, J.A. et al. (2002) *Am J Physiol Renal Physiol* 282, F810-20.
7. Escobar, L. et al. (2013) *Nefrologia* 33, 289-96.
8. Figueroa, D. (2013) *Immunohematology* 29, 73-81.

Species Reactivity

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

Applications Key

IF-F: Immunofluorescence (Frozen) **IF-IC:** Immunofluorescence (Immunocytochemistry)

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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