

Supplementary information 2 (Table) | **Mammalian Bicarbonate Transporters.**

Gene/common name	Tissue distribution/epithelial localization	Transport mode	Murine null phenotype	Refs
SLC4a1/AE1, Band 3	Erythrocyte, kidney, heart/ <i>kAE1 Basolateral</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electroneutral</i>	Hemolytic anemia in two independent mouse AE1 ^{-/-} lines, also seen in spontaneous bovine mutant.	1-3 4
SLC4a2/AE2	Widespread/ <i>Basolateral</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electroneutral</i>	Loss of stomach acid secretion, failed dentition; altered immune function.	5, 6 7
SLC4a3/AE3	Brain, heart, retina, pituitary, adrenal gland; <i>Non-epithelial</i>	Cl ⁻ /HCO ₃ ⁻ exchange / <i>electroneutral</i>	Inner retinal defects, similar to human vitreoretinal degeneration syndromes; sensitivity to chemical-induced seizures.	8-10
SLC4a4/NBCe1	Pancreas, kidney, heart, cornea, prostate, colon, stomach, thyroid, brain/ <i>Basolateral</i>	Na ⁺ /HCO ₃ ⁻ co-transport/ <i>electrogenic</i>	Metabolic acidosis, runting, splenomegaly, altered dentition, intestinal obstruction; death before weaning.	11 12-17
SLC4a5/NBCe2	Brain (especially prefrontal cortex), epididymis, cardiac muscle, smooth muscle, kidney, choroid plexus/ <i>Apical</i>	Na ⁺ /HCO ₃ ⁻ co-transport/ <i>electrogenic</i>	No mouse model.	18-21
SLC4a7/NBCn1	Heart, kidney, skeletal muscle, smooth muscle, submandibular gland, pancreas, stomach/ <i>Basolateral</i>	Na ⁺ /HCO ₃ ⁻ co-transport/ <i>electroneutral</i>	Blindness and auditory defect.	22 23-25
SLC4a9	Kidney, testis, pancreas, widespread/ <i>Apical</i>	Na ⁺ /HCO ₃ ⁻ co-transport/ <i>electroneutral</i>	No mouse model.	26-29
SLC4a8/NDCBE	Prefrontal cortex of brain, testis, cardiac myocytes, oocytes	Na ⁺ -dependent Cl ⁻ /HCO ₃ ⁻ exchange and (electroneutral NBC: splice variant)/ <i>electroneutral</i>	No mouse model.	30-32
SLC4a10/NBCn2	Cardiac myocytes, neurons, kidney, uterus, adrenal cortex, choroid plexus/ <i>Basolateral</i>	Na ⁺ /HCO ₃ ⁻ co-transport or Na ⁺ -dependent Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electroneutral</i>	Epileptic seizures, reduced brain ventricle volume 2° to choroid plexus defect.	33-36
SLC26a3/DRA	Colon, ileum, cardiac myocytes, eccrine sweat gland/ <i>Apical</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electroneutral</i>	High chloride diarrhea.	37-39
SLC26a4/Pendrin	Thyroid, inner ear, thyroid, kidney, prostate/ <i>Apical</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electrogenic</i>	Deafness with vestibular dysfunction; inner ear endolymph dilatation.	40 41-43
SLC26a6/PAT-1	Kidney, heart, bronchial epithelium, pancreas, prostate, thymus, intestine/ <i>Apical</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electrogenic</i>	Calcium oxalate urolithiasis, hyperoxaluria, high plasma oxalate.	44 45-47
SLC26a7	Thyroid, kidney, stomach, retina, olfactory epithelium/ <i>Basolateral</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electrogenic</i>	No mouse model.	48-50
SLC26a9	Salivary gland, heart, brain, stomach, trachea, kidney/ <i>Apical</i>	Cl ⁻ /HCO ₃ ⁻ exchange/ <i>electrogenic</i>	No mouse model.	51, 52

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