

Supplementary data

Study of Receptor Mediated Selective Anion Transmembrane Transport Using Parallel Artificial Membrane Permeability Assay

Lenka Veverková, Kamil Záruba, Vladimír Král

Table S1. Transport of anions by transmembrane transport agents **1** and **2**. Initial concentration of chloride in acceptor well was 10 mM

	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
1	mM	mM	mM	mM	cm/s	
ReO ₄ ⁻	10.00	9.33 (0.17)	<0.7	3.73	-	0.38
SO ₄ ²⁻	10.00	<0.07	10.05 (0.43)	6.03	0	0.00
NO ₃ ⁻	10.00	<0.07	9.90 (0.07)	5.94	0	0.01
	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
2	mM	mM	mM	mM	cm/s	
ReO ₄ ⁻	10.00	9.30 (0.17)	<0.7	3.72	-	0.38
SO ₄ ²⁻	10.00	<0.07	9.92 (0.57)	5.95	0	0.01
NO ₃ ⁻	10.00	<0.07	9.83 (0.10)	5.90	0	0.02

Table S2. Co-transport of chlorides (from acceptor to donor wells) by **1** and **2**. Initial concentration of chloride in acceptor well was 10 mM

	C_A(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
1	mM	mM	mM	mM	cm/s	
Cl ⁻ / -	10.0	7.69 (0.81)	2.88 (0.00)	4.8	2.0·10 ⁻⁵	-0.20
Cl ⁻ /ReO ₄ ⁻	10.0	8.60 (0.00)	1.59 (0.10)	4.4	1.0·10 ⁻⁵	-0.10
Cl ⁻ /SO ₄ ²⁻	10.0	7.24 (0.98)	1.44 (0.35)	3.8	1.1·10 ⁻⁵	0.06
Cl ⁻ /NO ₃ ⁻	10.0	9.08 (0.15)	0.99 (0.18)	4.2	5.9·10 ⁻⁶	-0.06
	C_A(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
2	mM	mM	mM	mM	cm/s	
Cl ⁻ / -	10.0	7.66 (0.12)	2.51 (0.17)	4.6	1.8·10 ⁻⁵	-0.14
Cl ⁻ /ReO ₄ ⁻	10.0	8.60 (0.02)	2.20 (0.27)	4.8	1.4·10 ⁻⁵	-0.19
Cl ⁻ /SO ₄ ²⁻	10.0	7.24 (0.98)	1.45 (0.21)	3.8	1.1·10 ⁻⁵	0.06
Cl ⁻ /NO ₃ ⁻	10.0	7.75 (0.54)	2.29 (0.40)	4.5	1.6·10 ⁻⁵	-0.12

Table S3. Transport of anions by transmembrane transport agents **1** and **2**. Initial concentration of chloride in acceptor well was 140 mM

	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
1	mM	mM	mM	mM	cm/s	
ReO ₄ ⁻	10.00	9.22 (0.21)	<0.7	3.69	-	0.39
SO ₄ ²⁻	2.00	0.32 (0.09)	1.66 (0.19)	1.12	7.3·10 ⁻⁶	0.07
NO ₃ ⁻	2.00	<0.07	1.71 (0.43)	1.03	0	0.14
	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
2	mM	mM	mM	mM	cm/s	
ReO ₄ ⁻	10.00	9.89 (0.28)	<0.7	3.95	-	0.34
SO ₄ ²⁻	2.00	<0.07	1.42 (0.05)	0.85	0	0.29
NO ₃ ⁻	2.00	<0.07	1.70 (0.09)	1.02	0	0.15

Table S4. Co-transport of chlorides (from acceptor to donor wells) by **1** and **2**. Initial concentration of chloride in acceptor well was 10 mM

	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
1	mM	mM	mM	mM	cm/s	
Cl ⁻ –	140.3	103.4 (3.9)	31.8 (2.7)	60.4	1.7·10 ⁻⁵	0.08
Cl ⁻ /ReO ₄ ⁻	140.3	102.4 (1.8)	26.5 (3.5)	56.9	1.4·10 ⁻⁵	0.01
Cl ⁻ /SO ₄ ²⁻	140.3	94.7 (2.3)	25.4 (3.7)	59.1	2.0·10 ⁻⁵	0.05
Cl ⁻ /NO ₃ ⁻	140.3	99.3 (2.8)	34.3 (3.4)	60.3	1.9·10 ⁻⁵	0.07
	C_D(t=0)	C_A(t) (2·σ)	C_D(t) (2·σ)	C_{eq}	P	R
2	mM	mM	mM	mM	cm/s	
Cl ⁻ –	140.3	105.1 (2.1)	35.3 (3.5)	63.2	1.8·10 ⁻⁵	0.13
Cl ⁻ /ReO ₄ ⁻	140.3	103.3 (4.8)	25.1 (1.6)	56.4	1.3·10 ⁻⁵	0.00
Cl ⁻ /SO ₄ ²⁻	140.3	91.7 (3.0)	39.5 (3.8)	60.4	2.4·10 ⁻⁵	0.08
Cl ⁻ /NO ₃ ⁻	140.3	99.5 (3.0)	34.7 (4.4)	60.6	1.9·10 ⁻⁵	0.08

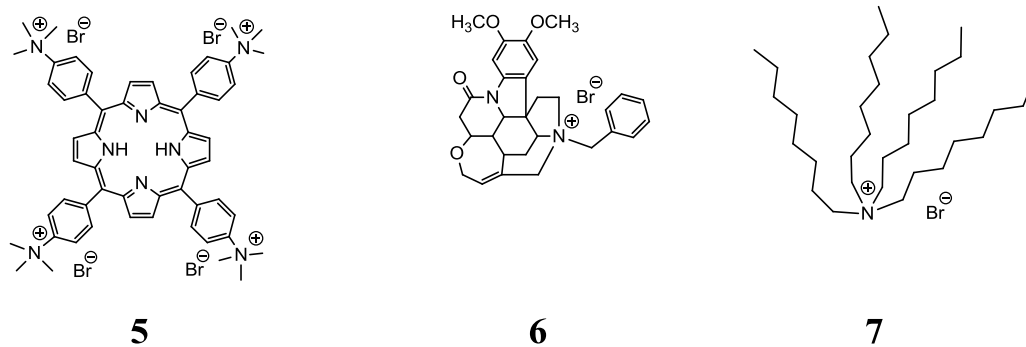


Fig. S1. Structures of other control quaternary ammonium salts and their numeric abbreviations