

**Table S1.** List of Transporter Turnover Rates (TORs) for Representative Transport Processes.

Category	Transporter	TOR (sec <sup>-1</sup> )	Reference
uniport	OCT2	43	current study
	OCT2	2.8	[1]
	OCT1	4.6	[1]
	Hxt7	200	[2]
	GLUT4	283	[3]
	GLUT3	853	[4]
	GLUT4	350	[5]
	GLUT1	1200	[6]
	GLUT1	450	[3]
	ENT1	112	[7]
	ENT1	46	[8]
countertransport	MATE1	463	current study
	MATE1	0.4	[1]
	MATE2-K	2.2	[1]
	VMAT1	0.2	[9]
	VMAT1	0.2	[10]
	SVAT	2	
	NHE1-3	459	[11]
	NHE1-3	80	[11]
	NHE1	3000	[12]
	NHE1	3000	[13]
	NHE	2000	[14]
cotransport	SGLT1	38	[15]
	SGLT1	57	[16]
	rSGLT1	30	[17]
	rbPEPT1	100	[18]
	pSGLT2	60	[19]
	SERT	1.83	[20]
	SERT	3.1	[21]
	NKCC	255	[22]
	NET	0.11	[20]
	MCT1	12.2	[23]
	LacY	69	[24]
	LacY	48	[25]
	DAT	1.92	[20]
	AAP1/NAT2	350	[26]

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