Supplementary information relating to Nature, Vol. 399, pages 70-75, May 6, 1999

A family of mammalian Na⁺-dependent L-ascorbic acid transporters

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Table 1 Summary of saturation kinetics for SVCT1 and SVCT2 determined from radiotracer assays

SVCT isoform	L-Ascorbic acid		Na ⁺	
	Κ _{0.5} ^{Asc} (μΜ)	n _H for L-ascorbic acid	Κ _{0.5} (mM)	<i>n</i> _H for Na ⁺
SVCT1	18.7 ± 2.7	1.2 ± 0.1	26.8 ± 3.8	1.6 ± 0.3
SVCT2	9.4 ± 1.9	1.0 ± 0.3	10.4 ± 0.6	2.0 ± 0.2

Kinetic parameters were determined from 500 μ M L-[14 C]ascorbic acid uptake data over a range of Na $^+$ concentrations, and over a range of L-ascorbic acid concentrations at 100 mM NaCl (with 6-10 oocytes at each concentration). Data are from single representative experiments and errors represent the error in the estimate of kinetic parameters according to equation 1. The derived maximal velocity (V_{max}) for L-ascorbic acid uptake (V_{max}^{Asc}) was 3.5 \pm 0.1 pmol.min $^{-1}$ per oocyte in the case of SVCT1; V_{max}^{Asc} was 0.2 \pm 0.01 pmol.min $^{-1}$ per oocyte for SVCT2.