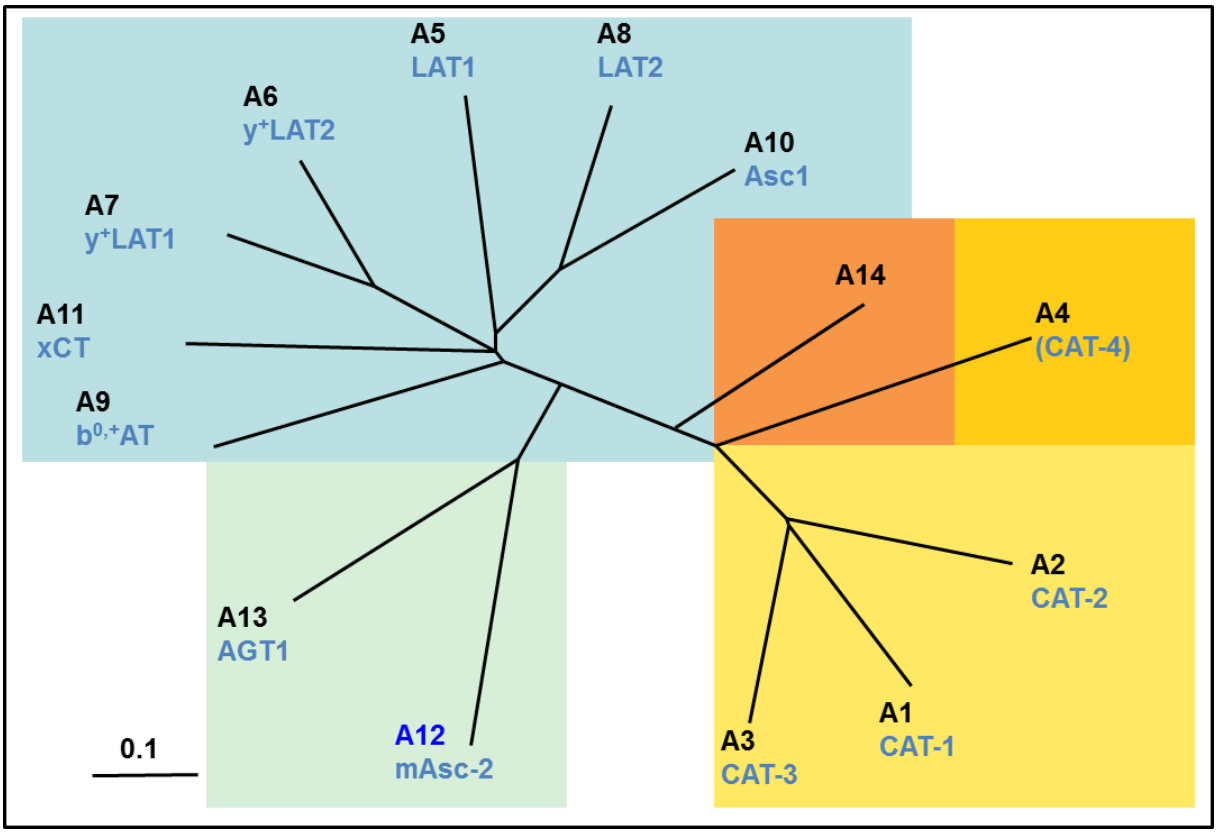
Supplemental data

Supplement Table I

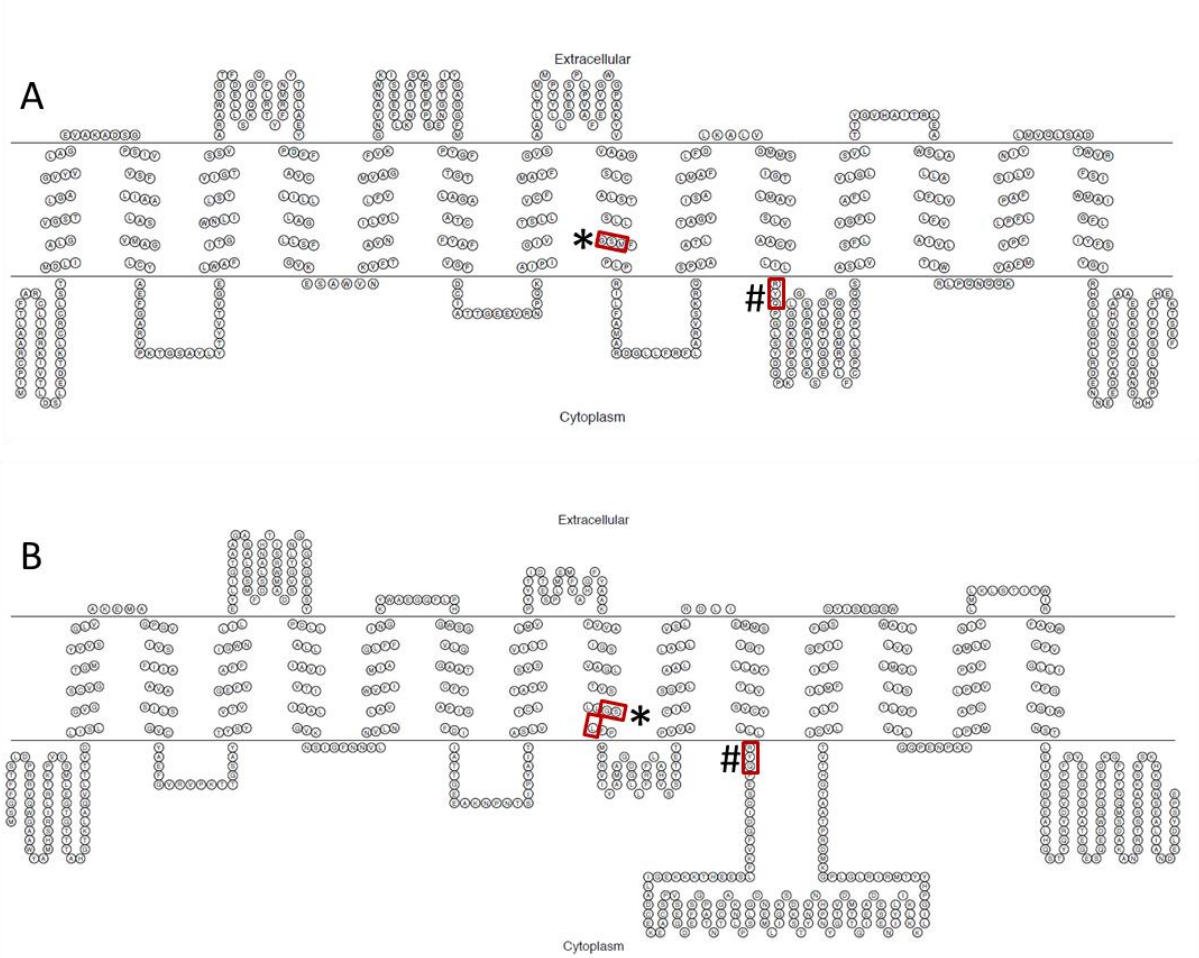
Silent mutations in the coding sequence of SLC7A14

The sequence of each oligonucleotide is given in sense orientation. As mutation is given the original DNA-base, the site of mutation (numeration starts at ATG) and the current DNA-base.

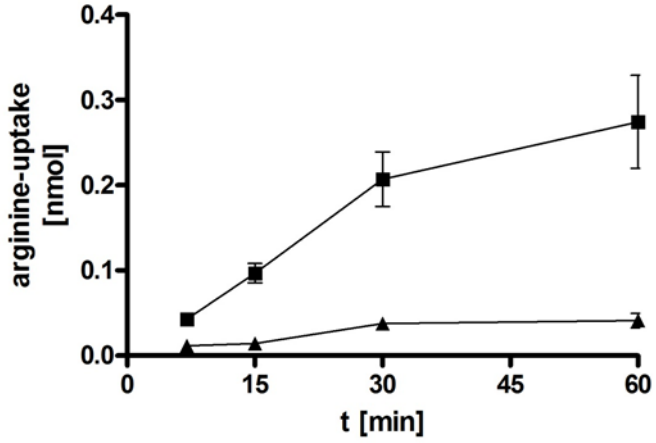
	Mutation	**Oligonucleotide**
Insertion of KpnI site	a1290c	gtgtcttgctccttcg**g**taccaacctgagagtg
Deletion of BamHI site	g75t	tatgcaatgcactccag**a**atcctacgcaccaaacc
Deletion of BamHI site	c1986t	ctccaccatcacatgg**a**tacggtttgcggtct
Insertion of BamHI site	g1056t	gtcagcttgctggg**a**tccctcttcccgat



Supplement Fig.1: Phylogenetic tree of the SLC7 family of amino acid transporters. Modified from Verry [2004]. The SLC7 family is composed of two subfamilies formed by the cationic amino acid transporters (hCAT, SLC7A1- 3) and the glycoprotein-associated amino acid transporters [gpaAT, light chains of heterodimeric amino acid transporters (lcHAT)], SLC7A4 and A14 are orphan proteins with unknown function.

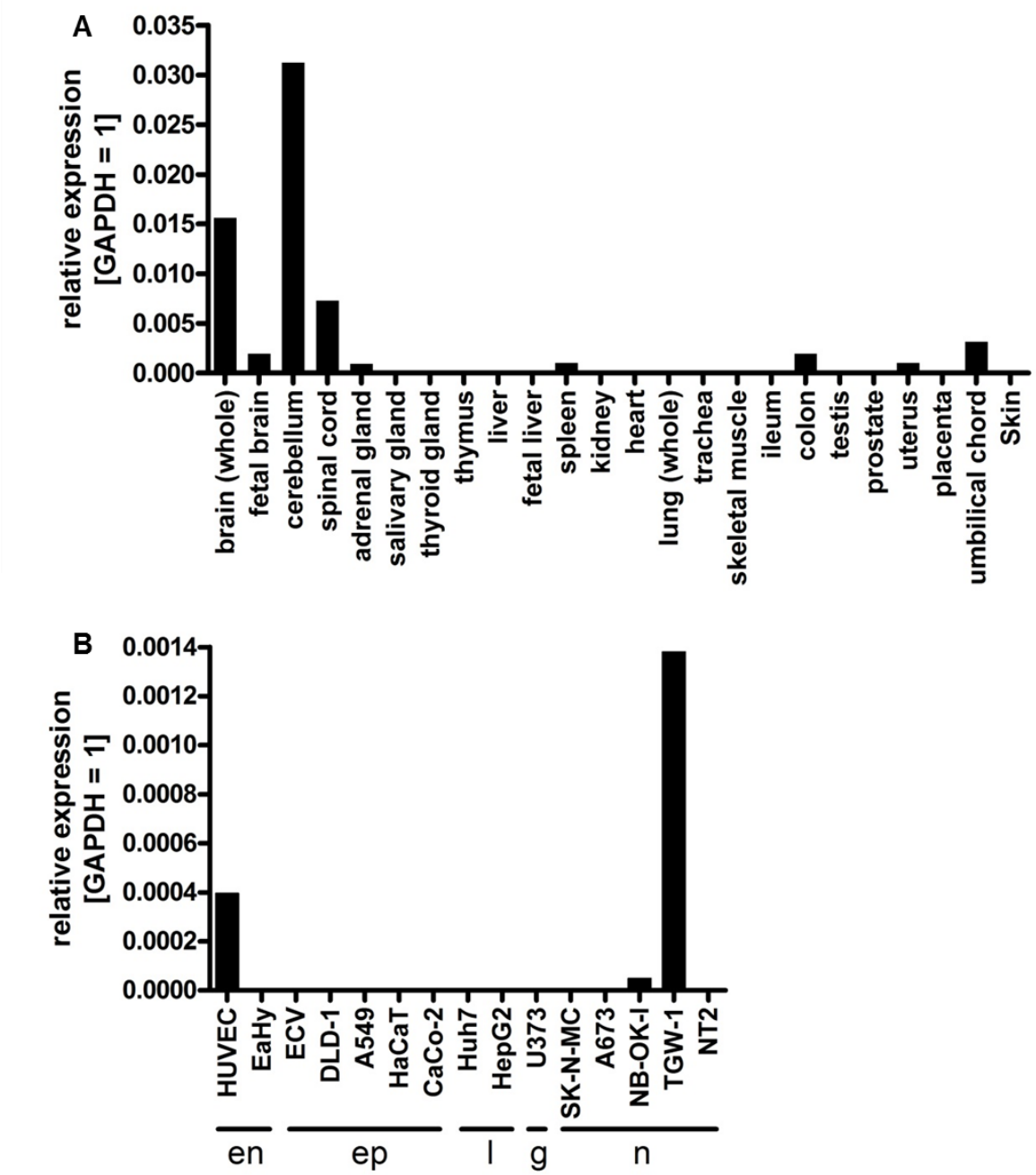


Supplement Fig.2: Model of hCAT-2A and SLC7A14
Models of hCAT-2A (A) and SLC7A14 (B) with 14 putative TMs as predicted by most analyses software. These models were generated with the Topo2 program. The positions corresponding to the restriction enzyme recognition sites BamHI (*) and KpnI (#) that were used to create the chimeric protein hCAT-2/A14_BK are boxed in red.

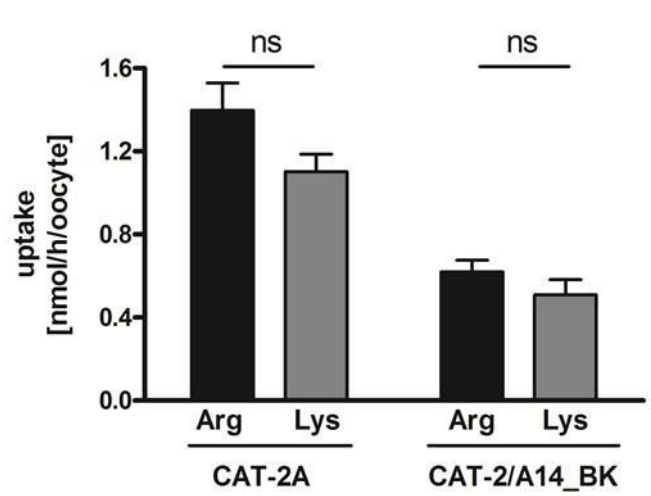


Supplement Fig.3: Time-course of arginine-uptake in CAT-2/A14_BK expressing and non-injected X. laevis oocytes

hCAT-2/A14_BK cRNA was injected in *Xenopus laevis* oocytes. Not injected oocytes served as controls. [^{3}H]L-arginine uptake into hCAT-2/A14_BK-expressing (-■-) and non-injected control oocytes (-▲-) was measured after 7, 15, 30 and 60 minutes of incubation in 1mM [^{3}H]L-arginin [10µCi/ml]. The results represent means ± SEM (n= 7).



Supplement Fig.4: Expression of SLC7A14 mRNA in human cells and tissues
In all experiments messenger RNA amount of SLC7 members was measured by quantitative RT-PCR. GAPDH was chosen as housekeeping gene for relative determinations. A) RNA from BD Biosciences Clontech was monitored for SLC7A14 mRNA expression. B) Total RNA was isolated from several human cell lines (en: endothelial, ep: epithelial cells form different organs, l: liver, g: glia, n: neuronal).



Supplement Fig.5: Transport of [^{3}H]L-arginine and [^{3}H]L-lysine in *X. laevis* oocytes

hCAT-2A and hCAT-2/A14_BK cRNA was injected in *Xenopus laevis* oocytes. Not injected oocytes served as controls. Uptake of 1 mM [^{3}H]L-arginine (black bars) and [^{3}H]L-lysine (grey bars) was measured. Results obtained with non-injected oocytes were subtracted from all results. Data represent mean ± SEM (n=7); n.s. stands for not significant.