

## Supplementary Material

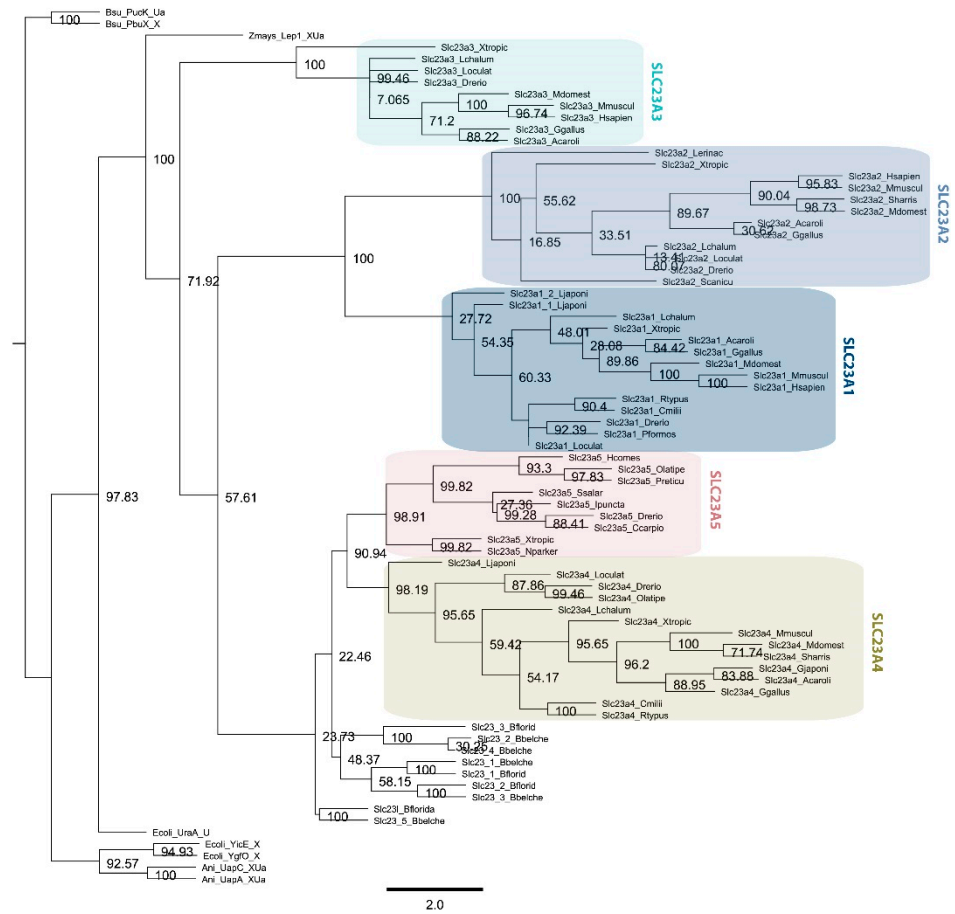
### Identification of a Novel Nucleobase-Ascorbate Transporter Family Member in Fish and Amphibians

#### Supplementary Figures:

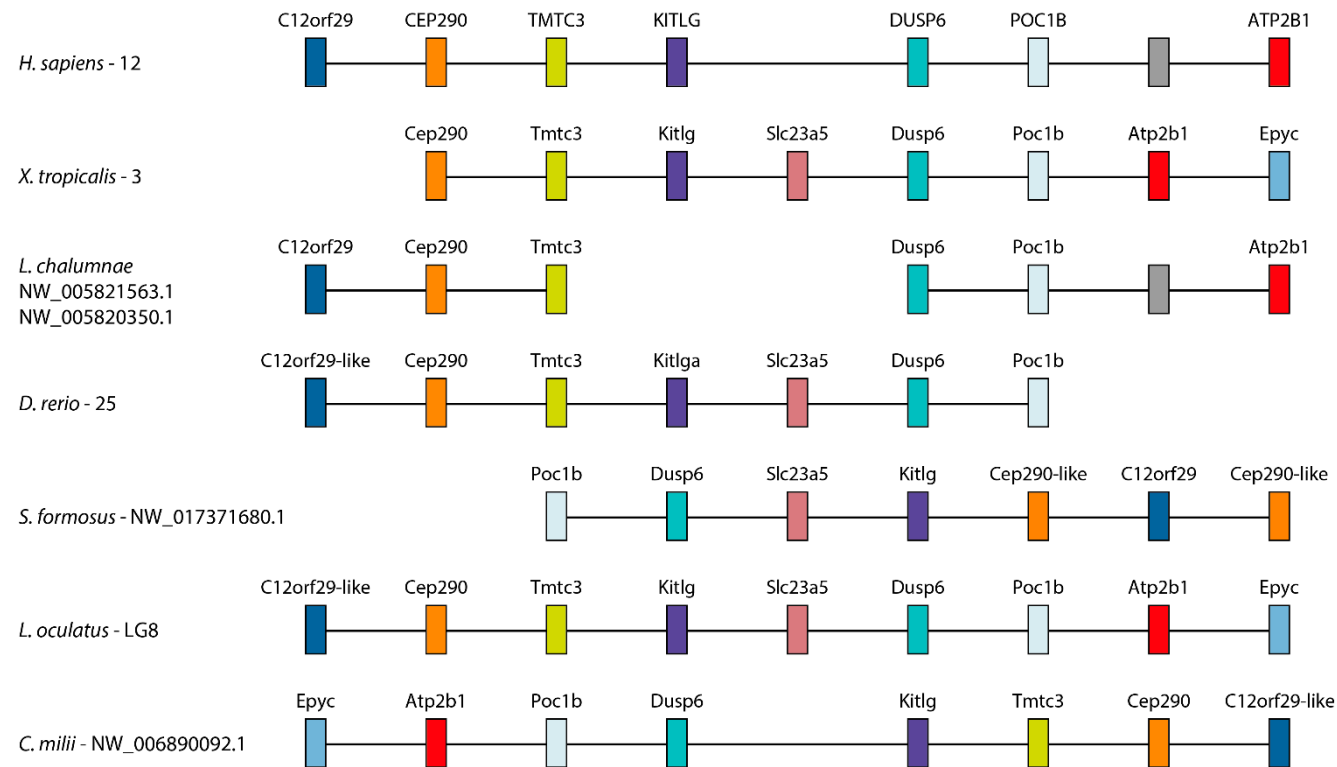
- Figure S1 – RaxML phylogenetic tree.
- Figure S2 - Synteny maps of *Slc23a5*.
- Figure S3 - Synteny maps of *Slc23a1*.
- Figure S4 - Synteny maps of *Slc23a2*.
- Figure S5 - Synteny maps of *Slc23a3*.
- Figure S6 - Synteny maps of *Slc23a4*.
- Figure S7 – S/T-X-Ø tripeptide conservation in Slc23a1 and Slc23a4 sequences.
- Figure S8 – Topology prediction of Slc23a5.

#### Supplementary Tables:

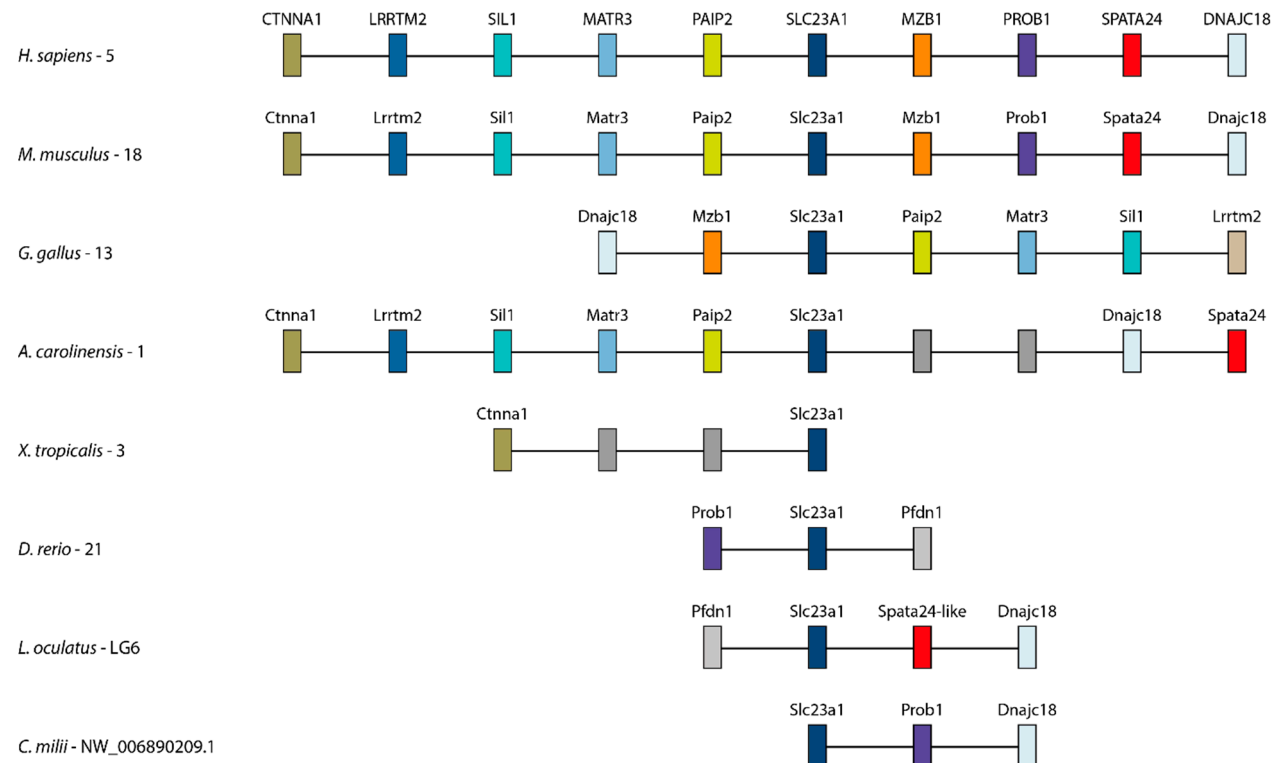
- Table S1 - Accession numbers.
- Table S2 - Accession numbers of the RNAseq files.
- Table S3 - Gene identifier for all genes included in gene expression analysis, collected from NCBI and ENSEMBLE Databases.
- Table S4 - Genome and GTF files retrieved from Ensemble database (Release 89) and Transcriptome files retrieved from NCBI used for this study.
- Table S5 - Relative gene expression levels of Slc23 family genes for eight species. The values are presented in log<sub>2</sub> (TPM +1) ratios.
- Table S6 - Renal uric acid absorption and secretion: the urate transportome.



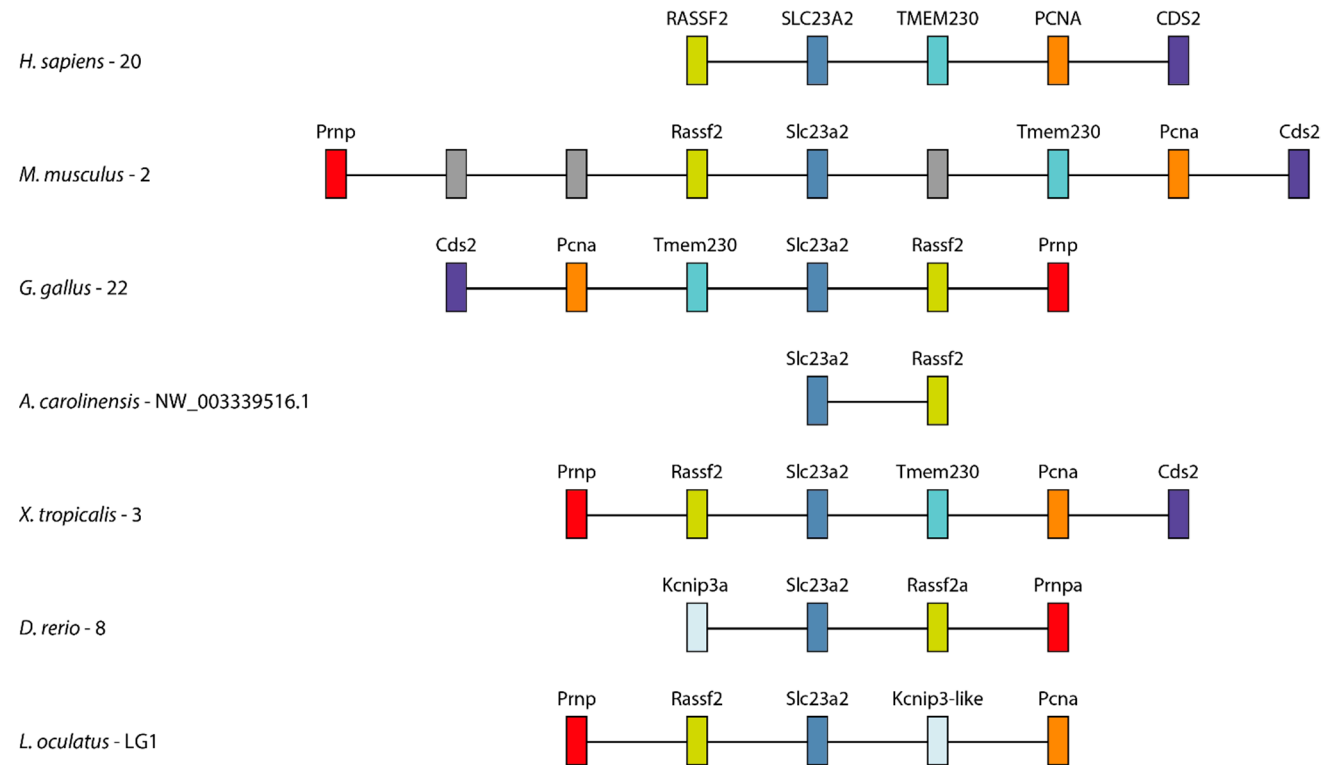
**Figure S1.** RaxML phylogenetic tree. Node values represent bootstrap values.



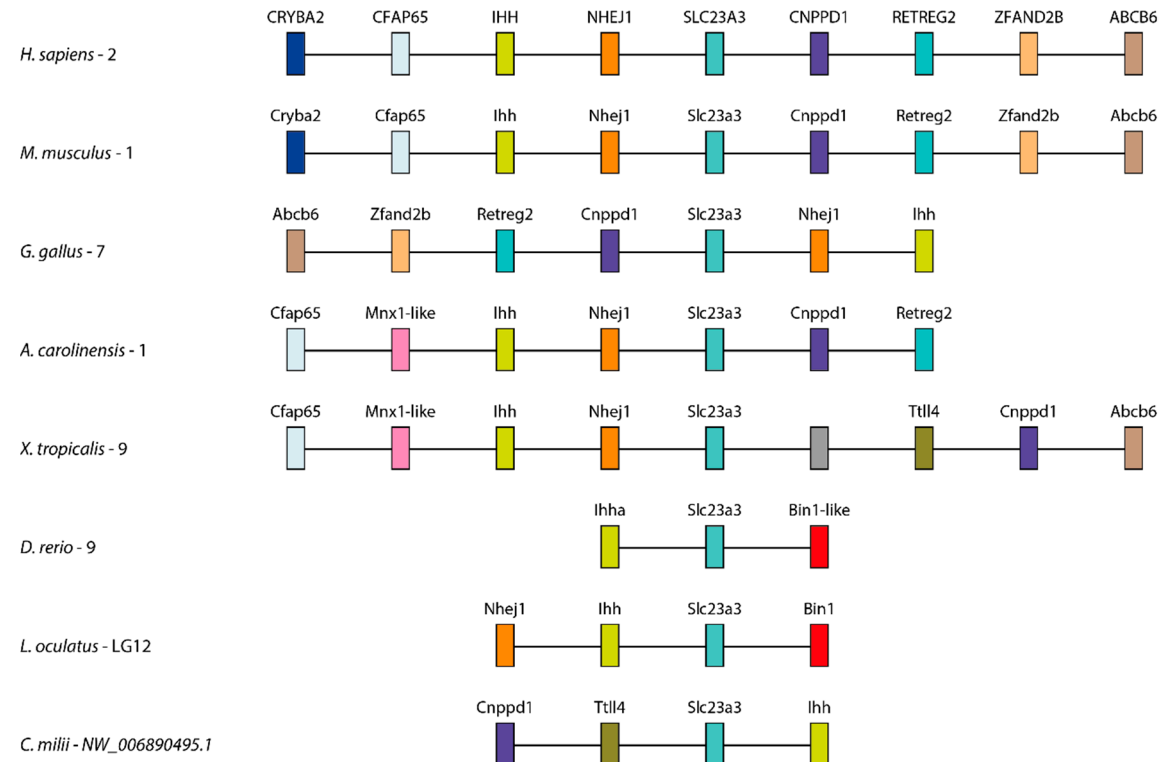
**Figure S2.** Synteny maps of *Slc23a5*. Conservation of the *Slc23a5* locus in major fish lineages, *Xenopus tropicalis* and *Homo sapiens*. Numbering after species corresponds to chromosome or scaffold. Information is presently absent for the Chondrostei *Acipenser ruthenus*. Grey boxes indicate non-conserved genes.



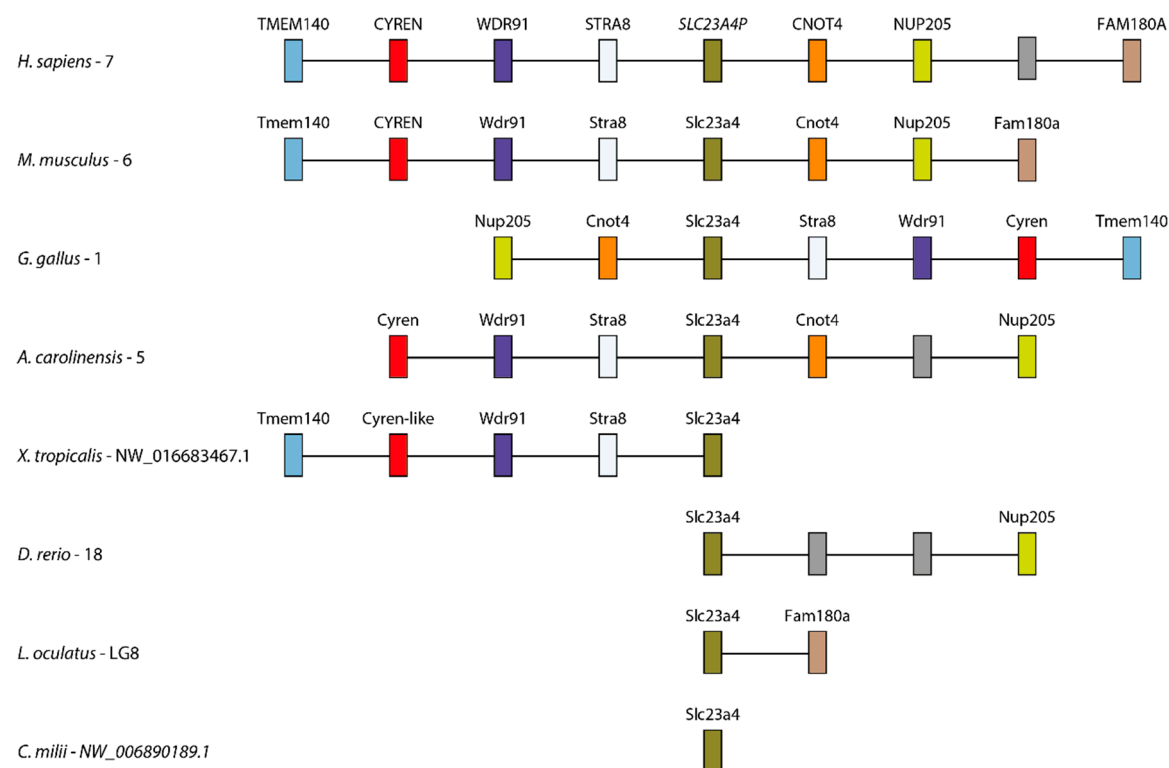
**Figure S3.** Synteny maps of *Slc23a1*. Conservation of the *Slc23a1* locus in major vertebrate lineages. Numbering after species corresponds to chromosome or scaffold. Grey boxes indicate non-conserved genes.



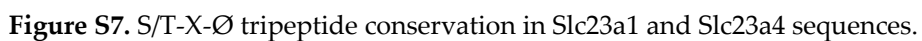
**Figure S4.** Synteny maps of *Slc23a2*. Conservation of the *Slc23a2* locus in major vertebrate lineages. Numbering after species corresponds to chromosome or scaffold. Grey boxes indicate non-conserved genes. .



**Figure S5.** Synteny maps of *Slc23a3*. Conservation of the *Slc23a3* locus in major vertebrate lineages. Numbering after species corresponds to chromosome or scaffold. Grey boxes indicate non-conserved genes.

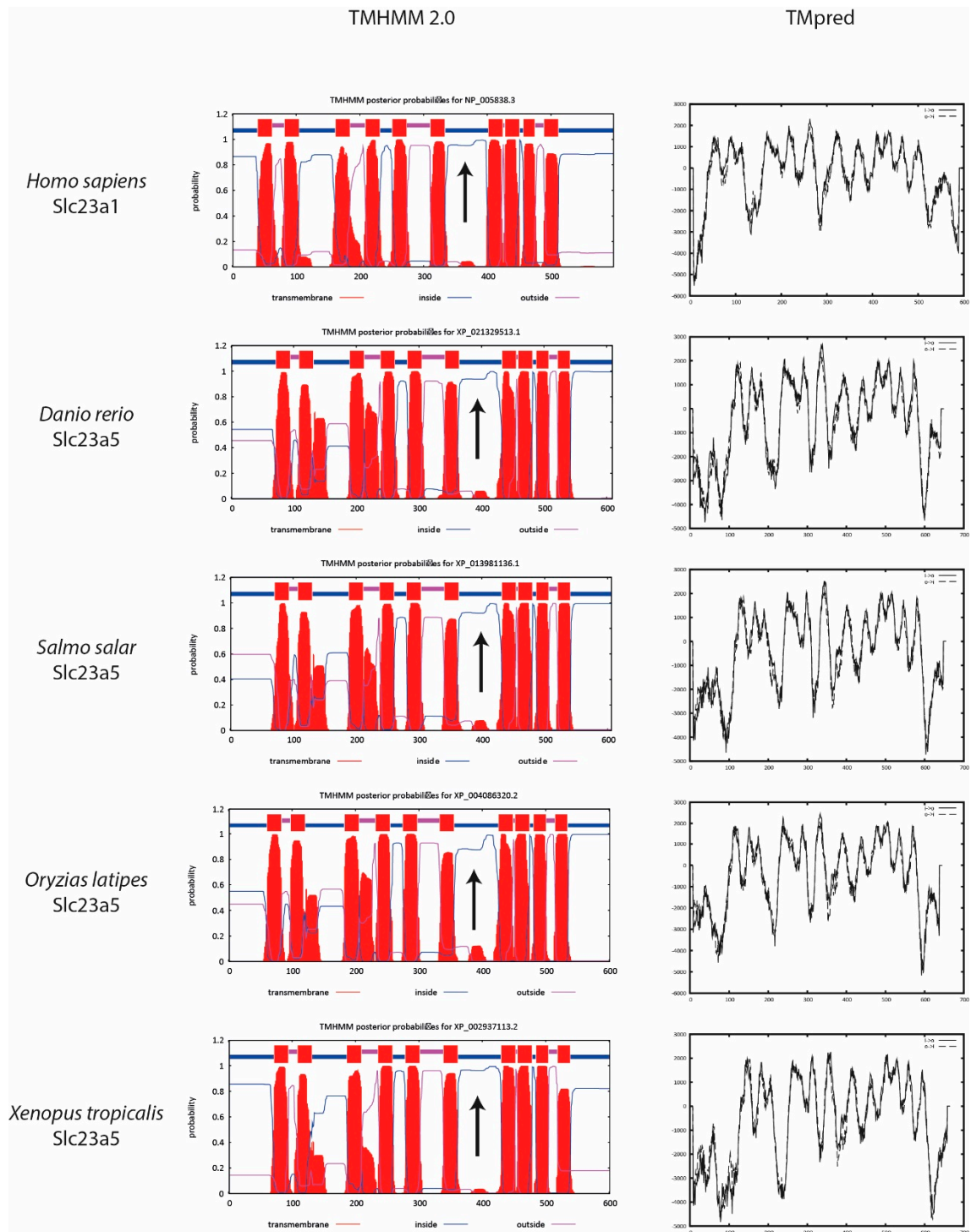


**Figure S6.** Synteny maps of *Slc23a4*. Conservation of the *Slc23a4* locus in major vertebrate lineages. Numbering after species corresponds to chromosome or scaffold. The human homologue is indicated as pseudogenized (*SLC23A4P*). Grey boxes indicate non-conserved genes.



**Figure S7.** S/T-X-Ø tripeptide conservation in Slc23a1 and Slc23a4 sequences.





**Figure S8.** Topology prediction of Slc23a5 sequences: from *D. rerio*, *O. latipes*, *Salmo salar* (Atlantic salmon) and *X. tropicalis*, and human Slc23a1 used as control. TMHMM Server v. 2.0 (left) and hydropathy plots (right) are provided. Arrows denote the position of NAT family motif.

**Supplementary Tables:**  
**Table S1.** Accession numbers.

| Species                         | Gene       | Accession Number | Common name               |
|---------------------------------|------------|------------------|---------------------------|
| <i>Aspergillus nidulans</i>     | UapA       | CAA50681         | -                         |
| <i>Aspergillus nidulans</i>     | UapC       | CAA56190         | -                         |
| <i>Bacillus subtilis</i>        | PbuX       | KIX81273         | -                         |
| <i>Bacillus subtilis</i>        | PucK       | KIX81727         | -                         |
| <i>Escherichia coli</i>         | YgfO       | CDU41213.1       | -                         |
| <i>Escherichia coli</i> O25b:H4 | UraA       | ANK02789         | -                         |
| <i>Escherichia coli</i> O25b:H4 | YicE       | ANK04183         | -                         |
| <i>Zea mays</i>                 | Lep1       | AAB17501         | Maize                     |
| <i>Branchiostoma belcheri</i>   | Slc23-like | XP_019630437     | Amphioxus                 |
| <i>Branchiostoma belcheri</i>   | Slc23-like | XP_019636191     | Amphioxus                 |
| <i>Branchiostoma belcheri</i>   | Slc23-like | XP_019633776     | Amphioxus                 |
| <i>Branchiostoma belcheri</i>   | Slc23-like | XP_019616280     | Amphioxus                 |
| <i>Branchiostoma belcheri</i>   | Slc23-like | XP_019646793     | Amphioxus                 |
| <i>Branchiostoma floridae</i>   | Slc23-like | XP_002600710     | Florida lancelet          |
| <i>Branchiostoma floridae</i>   | Slc23-like | XP_002597306     | Florida lancelet          |
| <i>Branchiostoma floridae</i>   | Slc23-like | XP_002595086     | Florida lancelet          |
| <i>Branchiostoma floridae</i>   | Slc23-like | XP_002611161     | Florida lancelet          |
| <i>Anolis carolinensis</i>      | Slc23a1    | XP_008113637     | Green anole               |
| <i>Callorhynchus milii</i>      | Slc23a1    | XP_007904441     | Ghost shark               |
| <i>Cyprinus carpio</i>          | Slc23a1    | XP_018975086     | Common carp               |
| <i>Danio rerio</i>              | Slc23a1    | NP_001166970     | Zebrafish                 |
| <i>Gallus gallus</i>            | Slc23a1    | XP_004944825     | Chicken                   |
| <i>Homo sapiens</i>             | Slc23a1    | NP_005838        | Human                     |
| <i>Ictalurus punctatus</i>      | Slc23a1    | XP_017348904     | Channel catfish           |
| <i>Latimeria chalumnae</i>      | Slc23a1    | XP_005989382     | Coelacanth                |
| <i>Lepisosteus oculatus</i>     | Slc23a1    | XP_015205203     | Spotted gar               |
| <i>Lethenteron japonicum</i>    | Slc23a1    | JL2986           | Japanese lamprey          |
| <i>Monodelphis domestica</i>    | Slc23a1    | XP_016278852     | Gray short-tailed opossum |
| <i>Mus musculus</i>             | Slc23a1    | NP_035527        | House mouse               |
| <i>Oryzias latipes</i>          | Slc23a1    | XP_004076777     | Japanese rice fish        |
| <i>Poecilia formosa</i>         | Slc23a1    | XP_007556555     | Amazon molly              |
| <i>Rhincodon typus</i>          | Slc23a1    | XP_020385431     | Whale shark               |
| <i>Xenopus tropicalis</i>       | Slc23a1    | XP_002932349     | Tropical clawed frog      |
| <i>Anolis carolinensis</i>      | Slc23a2    | XP_003229574     | Green anole               |
| <i>Danio rerio</i>              | Slc23a2    | XP_021327808     | Zebrafish                 |
| <i>Gallus gallus</i>            | Slc23a2    | XP_015152797     | Chicken                   |
| <i>Homo sapiens</i>             | Slc23a2    | NP_976072        | Human                     |
| <i>Latimeria chalumnae</i>      | Slc23a2    | XP_014352307     | Coelacanth                |
| <i>Lepisosteus oculatus</i>     | Slc23a2    | XP_015197789     | Spotted gar               |
| <i>Lethenteron japonicum</i>    | Slc23a2    | JL15308          | Japanese lamprey          |
| <i>Leucoraja erinacea</i>       | Slc23a2    | ctg10612         | Little Skate              |
| <i>Monodelphis domestica</i>    | Slc23a2    | XP_007476346     | Gray short-tailed opossum |
| <i>Mus musculus</i>             | Slc23a2    | NP_061294        | House mouse               |
| <i>Sarcophilus harrisii</i>     | Slc23a2    | XP_003757995     | Tasmanian devil           |

|                                      |         |              |                               |
|--------------------------------------|---------|--------------|-------------------------------|
| <i>Scyliorhinus canicula</i>         | Slc23a2 | ctg15352     | Small-spotted catshark        |
| <i>Xenopus tropicalis</i>            | Slc23a2 | NP_001120161 | Tropical clawed frog          |
| <i>Anolis carolinensis</i>           | Slc23a3 | XP_008108299 | Green anole                   |
| <i>Danio rerio</i>                   | Slc23a3 | XP_017213243 | Zebrafish                     |
| <i>Gallus gallus</i>                 | Slc23a3 | XP_015145565 | Chicken                       |
| <i>Homo sapiens</i>                  | Slc23a3 | NP_001138362 | Human                         |
| <i>Latimeria chalumnae</i>           | Slc23a3 | XP_014343771 | Coelacanth                    |
| <i>Lepisosteus oculatus</i>          | Slc23a3 | XP_015214926 | Spotted gar                   |
| <i>Monodelphis domestica</i>         | Slc23a3 | XP_007501758 | Gray short-tailed opossum     |
| <i>Mus musculus</i>                  | Slc23a3 | NP_919314    | House mouse                   |
| <i>Xenopus tropicalis</i>            | Slc23a3 | XP_012826889 | Tropical clawed frog          |
| <i>Anolis carolinensis</i>           | Slc23a4 | XP_016849222 | Green anole                   |
| <i>Callorhynchus milii</i>           | Slc23a4 | XP_007903282 | Elephant shark                |
| <i>Danio rerio</i>                   | Slc23a4 | NP_001013353 | Zebrafish                     |
| <i>Gallus gallus</i>                 | Slc23a4 | XP_015145041 | Chicken                       |
| <i>Gekko japonicus</i>               | Slc23a4 | XP_015276774 | Schlegel's Japanese gecko     |
| <i>Latimeria chalumnae</i>           | Slc23a4 | XP_005991386 | Coelacanth                    |
| <i>Lepisosteus oculatus</i>          | Slc23a4 | XP_006633863 | Spotted gar                   |
| <i>Lethenteron japonicum</i>         | Slc23a4 | JL7088       | Japanese lamprey              |
| <i>Monodelphis domestica</i>         | Slc23a4 | XP_007504433 | Gray short-tailed opossum     |
| <i>Mus musculus</i>                  | Slc23a4 | XP_006506197 | House mouse                   |
| <i>Oryzias latipes</i>               | Slc23a4 | XP_004069901 | Japanese medaka               |
| <i>Rhincodon typus</i>               | Slc23a4 | XP_020391140 | Whale shark                   |
| <i>Sarcophilus harrisii</i>          | Slc23a4 | XP_012406506 | Tasmanian devil               |
| <i>Xenopus tropicalis</i>            | Slc23a4 | XP_012815547 | Tropical clawed frog          |
| <i>Boleophthalmus pectinirostris</i> | Slc23a5 | XP_020774843 | Great blue-spotted mudskipper |
| <i>Cynoglossus semilaevis</i>        | Slc23a5 | XP_016888339 | Tongue sole                   |
| <i>Cyprinus carpio</i>               | Slc23a5 | XP_018944039 | Common carp                   |
| <i>Danio rerio</i>                   | Slc23a5 | XP_009296238 | Zebrafish                     |
| <i>Fundulus heteroclitus</i>         | Slc23a5 | XP_021172742 | Mummichog                     |
| <i>Hippocampus comes</i>             | Slc23a5 | XP_019750396 | Tiger tail seahorse           |
| <i>Ictalurus punctatus</i>           | Slc23a5 | XP_017328967 | Channel catfish               |
| <i>Lates calcarifer</i>              | Slc23a5 | XP_018548144 | Barramundi perch              |
| <i>Lepisosteus oculatus</i>          | Slc23a5 | XP_015208244 | Spotted gar                   |
| <i>Maylandia zebra</i>               | Slc23a5 | XP_014264577 | Zebra mbuna                   |
| <i>Monopterus albus</i>              | Slc23a5 | XP_020448997 | Swamp eel                     |
| <i>Nanorana parkeri</i>              | Slc23a5 | XP_018412235 | -                             |
| <i>Neolamprologus brichardi</i>      | Slc23a5 | XP_006782389 | Fairy cichlid                 |
| <i>Nothobranchius furzeri</i>        | Slc23a5 | XP_015819289 | Turquoise killifish           |
| <i>Oncorhynchus mykiss</i>           | Slc23a5 | XP_021432371 | Rainbow trout                 |
| <i>Oreochromis niloticus</i>         | Slc23a5 | XP_005454237 | Nile tilapia                  |
| <i>Oryzias latipes</i>               | Slc23a5 | XP_004086320 | Japanese medaka               |
| <i>Poecilia reticulata</i>           | Slc23a5 | XP_008408845 | Guppy                         |
| <i>Pundamilia nyererei</i>           | Slc23a5 | XP_005731628 | -                             |
| <i>Pygocentrus nattereri</i>         | Slc23a5 | XP_017573200 | Red-bellied piranha           |
| <i>Salmo salar</i>                   | Slc23a5 | XP_013981136 | Atlantic salmon               |
| <i>Scleropages formosus</i>          | Slc23a5 | XP_018602707 | Asian bonytongue              |

|                                    |         |              |                      |
|------------------------------------|---------|--------------|----------------------|
| <i>Sinocyclocheilus rhinoceros</i> | Slc23a5 | XP_016366936 | -                    |
| <i>Stegastes partitus</i>          | Slc23a5 | XP_008289900 | Bicolor damselfish   |
| <i>Takifugu rubripes</i>           | Slc23a5 | XP_003967776 | Fugu rubripes        |
| <i>Xenopus tropicalis</i>          | Slc23a5 | XP_002937113 | Tropical clawed frog |

**Table S2.** Accession numbers of the RNAseq files. PE – portable executable format.

| Spotted gar         | Library | SRA Run    | Read length |
|---------------------|---------|------------|-------------|
| Brain               | PE      | SRR1524250 | 100         |
| Intestine           | PE      | SRR1524257 | 100         |
| Kidney              | PE      | SRR1524255 | 100         |
| Liver               | PE      | SRR1524254 | 100         |
| Testis              | PE      | SRR1524260 | 100         |
| Zebrafish           | Library | SRA Run    | Read length |
| Brain               | PE      | SRR1524238 | 100         |
| Intestine           | PE      | SRR1524245 | 100         |
| Kidney              | PE      | SRR1524243 | 100         |
| Liver               | PE      | SRR1524242 | 100         |
| Testis              | PE      | SRR1524249 | 100         |
| Chicken             | Library | SRA Run    | Read length |
| Brain               | PE      | SRR924542  | 100         |
| Intestine           | PE      | SRR3194289 | 100         |
| Kidney              | PE      | SRR924553  | 100         |
| Liver               | PE      | SRR924555  | 100         |
| Testis              | PE      | SRR924547  | 100         |
| Human               | Library | SRA Run    | Read length |
| Brain               | PE      | ERR315432  | 100         |
| Intestine           | PE      | ERR315419  | 100         |
| Kidney              | PE      | ERR315468  | 100         |
| Liver               | PE      | ERR315451  | 100         |
| Testis              | PE      | ERR315456  | 100         |
| Mouse               | Library | SRA Run    | Read length |
| Brain               | PE      | SRR5171101 | 100         |
| Intestine           | PE      | SRR5171080 | 100         |
| Kidney              | PE      | SRR5171094 | 100         |
| Liver               | PE      | SRR5171078 | 100         |
| Testis              | PE      | SRR5171084 | 100         |
| Western clawed frog | Library | SRA Run    | Read length |
| Brain               | PE      | SRR579560  | 75          |
| Intestine           | SE      | SRR1186999 | 50          |
| Kidney              | PE      | SRR579562  | 75          |
| Liver               | PE      | SRR579561  | 75          |
| Testis              | SE      | SRR943353  | 100         |
| Anole lizard        | Library | SRA Run    | Read length |
| Brain               | PE      | SRR579556  | 75          |
| Kidney              | PE      | SRR579557  | 75          |
| Liver               | PE      | SRR391651  | 100         |
| Testis              | PE      | SRR5420127 | 50          |
| Japanese medaka     | Library | SRA Run    | Read length |
| Brain               | PE      | SRR1524271 | 100         |
| Intestine           | PE      | SRR1524278 | 100         |
| Kidney              | PE      | SRR1524276 | 100         |
| Liver               | PE      | SRR1524275 | 100         |
| Testis              | PE      | SRR1628839 | 90          |

**Table S3.** Gene identifier for all genes included in gene expression analysis, collected from NCBI and ENSEMBLE Databases.

| Organism            | Gene Symbol          | Gene ID NCBI | Gene ID Ensembl     |
|---------------------|----------------------|--------------|---------------------|
| Human               | Slc23a1              | 9962         | ENSG00000170482     |
|                     | Slc23a2              | 9963         | ENSG00000089057     |
|                     | Slc23a3              | 151295       | ENSG00000213901     |
| Mouse               | Slc23a1              | 20522        | ENSMUSG00000024354  |
|                     | Slc23a2              | 54338        | ENSMUSG00000027340  |
|                     | Slc23a3              | 22626        | ENSMUSG00000026205  |
|                     | Slc23a4              | 243753       | ENSMUSG00000029847  |
| Lizard              | Slc23a1              | 100556489    | ENSACAG00000016325  |
|                     | Slc23a2              | 100566000    | ENSACAG00000005986  |
|                     | Slc23a3              | 100567833    | ENSACAG00000003143  |
|                     | Slc23a4              | 100563862    | ENSACAG00000011027  |
| Chicken             | Slc23a1              | 416188       | ENSGALG00000037642  |
|                     | Slc23a2              | 419520       | ENSGALG00000000195  |
|                     | Slc23a3              | 429039       | Not Found           |
|                     | Slc23a4              | 417937       | ENSGALG00000011717  |
| Western clawed frog | Slc23a1              | 100493636    | ENSXETG00000008402  |
|                     | Slc23a2              | 100145200    | ENSXETG00000016853  |
|                     | Slc23a3              | 100486175    | ENSXETG00000013878  |
|                     | Slc23a4              | 100490216    | ENSXETG00000020228  |
|                     | Slc23a5              | 100486632    | Not Found           |
| Zebrafish           | Slc23a1              | 559435       | ENSDARG00000015033  |
|                     | Slc23a2              | 100321249    | ENSDARG00000017365  |
|                     | Slc23a3              | 100333020    | ENSDARG00000008891  |
|                     | Slc23a4              | 503757       | ENSDARG00000052497  |
|                     | Slc23a5              | 798958       | ENSDARG00000045792  |
| Japanese medaka     | Slc23a1              | 101155711    | ENSORLGG00000012701 |
|                     | Slc23a2              | 101156743    | ENSORLGG00000002889 |
|                     | Slc23a3              | Not Found    | Not Found           |
|                     | Slc23a4 <sup>a</sup> | 101173186    | ENSORLGG00000009915 |
|                     | Slc23a4b             | 101157211    | ENSORLGG00000015991 |
|                     | Slc23a5              | 101175057    | ENSORLGG00000019882 |
| Spotted gar         | Slc23a1              | 102691341    | ENSLOCG00000012533  |
|                     | Slc23a2              | 102691255    | ENSLOCG00000015630  |
|                     | Slc23a3              | 102699040    | ENSLOCG00000010877  |
|                     | Slc23a4              | 102686145    | ENSLOCG00000016950  |
|                     | Slc23a5              | 2682847      | ENSLOCG00000016369  |

**Table S4.** Genome and GTF files retrieved from Ensemble database (Release 89) and Transcriptome files retrieved from NCBI used for this study.

| Organisms           | Genome / Transcriptome Files                    | GTF FILE                                    | Download date | Source   |
|---------------------|-------------------------------------------------|---------------------------------------------|---------------|----------|
| Mouse               | Mus_musculus.GRCm38.dna.toplevel.fa             | Mus_musculus.GRCm38.89.gtf                  | 09/08/2017    | Ensemble |
| Spotted gar         | Lepisosteus_oculatus.LepOcu1.dna.toplevel.fa    | Lepisosteus_oculatus.LepOcu1.89.gtf         | 09/08/2017    | Ensemble |
| Anole lizard        | Anolis_carolinensis.AnoCar2.0.dna.toplevel.fa   | Anolis_carolinensis.AnoCar2.0.89.gtf        | 09/08/2017    | Ensemble |
| Zebrafish           | Danio_rerio.GRCz10.dna.toplevel.fa              | Danio_rerio.GRCz10.89.gtf                   | 09/08/2017    | Ensemble |
| Human               | Homo_sapiens.GRCh38.dna.toplevel.fa             | Homo_sapiens.GRCh38.89.gtf                  | 09/08/2017    | Ensemble |
| Japanese medaka     | Oryzias_latipes.MEDAKA1.dna.toplevel.fa         | Oryzias_latipes.MEDAKA1.89.gtf              | 09/08/2017    | Ensemble |
| Western clawed frog | GCF_000004195.3_Xenopus_tropicalis_v9.1_rna.fna | Xenopus_tropicalis_Gene_Transcript_Map.txt* | 09/08/2017    | Ncbi     |
| Chicken             | GCF_000002315.4_Gallus_gallus-5.0_rna.fna       | Gallus_gallus_Gene_Transcript_Map.txt*      | 09/08/2017    | Ncbi     |

**Table S5.** Relative gene expression levels of Slc23 family genes for eight species. The values are presented in log2 (TPM +1) ratios.

| Organism            | Tissue    | Slc23a1 | Slc23a2 | Slc23a3 | Slc23a4a | Slc23a4b | Slc23a5 |
|---------------------|-----------|---------|---------|---------|----------|----------|---------|
| Human               | BRAIN     | 0,00    | 5,82    | 0,00    | -        | -        | -       |
|                     | INTESTINE | 5,85    | 2,64    | 4,61    | -        | -        | -       |
|                     | KIDNEY    | 3,71    | 3,70    | 4,28    | -        | -        | -       |
|                     | LIVER     | 4,03    | 3,58    | 2,36    | -        | -        | -       |
|                     | TESTIS    | 0,00    | 4,59    | 0,00    | -        | -        | -       |
| Mouse               | BRAIN     | 0,00    | 4,91    | 0,00    | 0,00     | -        | -       |
|                     | INTESTINE | 3,73    | 5,24    | 1,02    | 5,89     | -        | -       |
|                     | KIDNEY    | 6,91    | 2,82    | 4,08    | 0,00     | -        | -       |
|                     | LIVER     | 5,06    | 2,85    | 0,00    | 0,00     | -        | -       |
|                     | TESTIS    | 0,00    | 1,63    | 0,00    | 0,00     | -        | -       |
| Lizard              | BRAIN     | 0,91    | 2,82    | 0,72    | 2,49     | -        | -       |
|                     | KIDNEY    | 6,76    | 1,39    | 6,10    | 1,19     | -        | -       |
|                     | LIVER     | 3,02    | 0,00    | 0,00    | 0,65     | -        | -       |
|                     | TESTIS    | 0,00    | 0,00    | 0,00    | 0,00     | -        | -       |
| Chicken             | BRAIN     | 0,00    | 6,27    | 0,96    | 1,82     | -        | -       |
|                     | INTESTINE | 6,44    | 3,25    | 2,96    | 6,09     | -        | -       |
|                     | KIDNEY    | 7,78    | 1,49    | 4,17    | 1,60     | -        | -       |
|                     | LIVER     | 5,20    | 1,98    | 1,76    | 0,82     | -        | -       |
|                     | TESTIS    | 2,35    | 2,08    | 2,03    | 1,85     | -        | -       |
| Western clawed frog | BRAIN     | 0,00    | 6,45    | 0,00    | 2,54     | -        | 0,00    |
|                     | INTESTINE | 0,00    | 2,23    | 0,00    | 5,65     | -        | 0,00    |
|                     | KIDNEY    | 7,63    | 4,08    | 6,53    | 5,00     | -        | 5,40    |
|                     | LIVER     | 0,00    | 3,41    | 0,00    | 2,14     | -        | 0,00    |
|                     | TESTIS    | 2,69    | 4,01    | 0,00    | 1,49     | -        | 1,64    |
| Zebrafish           | BRAIN     | 0,85    | 3,73    | 0,71    | 0,00     | -        | 1,01    |
|                     | INTESTINE | 2,69    | 1,21    | 0,00    | 4,00     | -        | 0,00    |
|                     | KIDNEY    | 5,35    | 2,27    | 3,42    | 4,78     | -        | 0,93    |
|                     | LIVER     | 0,00    | 1,26    | 0,00    | 0,00     | -        | 0,00    |
|                     | TESTIS    | 0,93    | 2,74    | 0,00    | 0,63     | -        | 1,97    |
| Japanese medaka     | BRAIN     | 0,00    | 4,70    | -       | 0,00     | 0,00     | 0,84    |
|                     | INTESTINE | 2,76    | 2,91    | -       | 4,95     | 0,00     | 0,00    |
|                     | KIDNEY    | 3,89    | 3,02    | -       | 4,43     | 0,00     | 0,00    |
|                     | LIVER     | 0,00    | 4,06    | -       | 0,00     | 0,00     | 0,00    |
|                     | TESTIS    | 0,00    | 3,20    | -       | 0,60     | 0,00     | 0,00    |
| Spotted gar         | BRAIN     | 0,58    | 4,94    | 0,00    | 0,00     | -        | 0,00    |
|                     | INTESTINE | 5,67    | 0,96    | 0,00    | 0,00     | -        | 0,00    |
|                     | KIDNEY    | 3,18    | 0,90    | 1,78    | 0,86     | -        | 0,00    |
|                     | LIVER     | 0,74    | 0,78    | 0,00    | 0,00     | -        | 0,00    |
|                     | TESTIS    | 1,92    | 7,21    | 0,00    | 0,00     | -        | 0,00    |

**Table S6.** Renal uric acid absorption and secretion: the urate transportome. n.f. – not found.

|                               | <b>Transporter</b> | <b><i>H. sapiens</i></b> | <b><i>M. musculus</i></b> | <b><i>G. gallus</i></b> | <b><i>A. carolinensis</i></b> | <b><i>X. tropicalis</i></b> | <b><i>D. rerio</i></b> | <b><i>L. oculatus</i></b> |
|-------------------------------|--------------------|--------------------------|---------------------------|-------------------------|-------------------------------|-----------------------------|------------------------|---------------------------|
| <b>Basolateral Absorption</b> | SLC2A9/GLUT9       | ✓                        | ✓                         | ✓                       | ✓                             | ✓                           | ✓                      | ✓                         |
| <b>Apical Absorption</b>      | SLC22A11/OAT4      | ✓                        | n.f.                      | n.f.                    | n.f.                          | n.f.                        | n.f.                   | n.f.                      |
|                               | SLC22A12/URAT1     | ✓                        | ✓                         | n.f.                    | n.f.                          | n.f.                        | n.f.                   | n.f.                      |
|                               | SLC22A13/OAT10     | ✓                        | ✓                         | ✓                       | ✓                             | ✓                           | ✓                      | ✓                         |
| <b>Basolateral Secretion</b>  | SLC22A6/OAT1       | ✓                        | ✓                         | ✓                       | ✓                             | ✓                           | n.f.                   | n.f.                      |
|                               | SLC22A8/OAT3       | ✓                        | ✓                         |                         |                               |                             | n.f.                   | n.f.                      |
| <b>Apical Secretion</b>       | SLC17A1/NPT1       | ✓                        | ✓                         | n.f.                    | n.f.                          | n.f.                        | n.f.                   | n.f.                      |
|                               | SLC17A3/NPT4       | ✓                        | ✓                         | n.f.                    | n.f.                          | n.f.                        | n.f.                   | n.f.                      |