

SUPPLEMENTAL MATERIAL

Supplemental Figure S1. Hierarchical Cluster Analysis of Gene Expression. Unsupervised hierarchical cluster analysis of Pearson-correlated normalized ΔCt values using average linkage was performed on the array gene dataset (n=448) for five eye regions. Data are from six orbs obtained from three individuals, see Supplemental Table S1 for donor information. The heatmap colors reflect the row-normalized Z-scaled scores for gene expression, where blue to white color gradient indicate genes expressed at lower relative expression levels (-1 to <0) and pink to red color gradient indicates those expressed at higher levels (>0 to +1). In B, heatmaps depicting a subset of the clustered genes (n=80, horizontal labels) from panel A which display the greatest differential expression between the cornea and retina. In (C), the hierarchical cluster analysis and differential expression of TransPortal genes (horizontal labels, n=27) in all eye regions is shown. The red to white color gradation in the heatmap indicates the genes expressed at the lowest (red) and highest (white) levels, respectively.

Supplemental Figure S2. Ingenuity Pathway Analysis of Herpetic Stromal Keratitis (HSV). IPA analysis of candidate genes involved in the development of HSV and corneal remodeling identified several nodes regulated by key hubs *HNF4A* and *IL1B*, which include *SLC22A7* (OAT2) and *ABCG2* (BCRP). Highly expressed genes (nodes) are indicated by pink to red color, while nodes with lower expression levels are shown by green color. White nodes indicate canonical pathway nodes or hubs. Edges (lines) represent relationships among nodes and hubs, where dashed lines indicate up or down regulation of gene expression, solid lines represent direct protein-protein or gene-protein interactions, and weights representing the nature of the relationship between the nodes. Red colored edge lines highlight the relationships of OAT2 with the major nodes and hubs within the network. All edges are supported by at least one reference

from the literature, from a textbook, or from canonical information stored in the Ingenuity Knowledge Base.

Supplemental Figure S3. Determination of BCRP antibody specificity in the retina. (A) Negative control in which primary antibody was omitted from the IHC method. (B) BCRP primary antibody after pre-incubation with recombinant BCRP protein overnight at 4°C (pre-absorbed) prior to incubation with tissue. Minor non-specific positive staining is detected in the outer plexiform layer. (C) BCRP primary antibody without pre-absorption. The pattern of BCRP expression here appears very similar to that depicted in Figure 4D. The difference in positive staining observed in (B) and (C) indicates that the antibody used to detect BCRP protein in the retina is specific to BCRP.

Supplemental Table S1. The characteristics of the eye donors

Use	Sex	Age	Race	Comorbidities	Concomitant medications	Smoking	Recreational drug use	Source
RT-PCR	F	88	Caucasian	COPD; age-related dementia	Coumadin, Lopressor, Milk of Magnesia, Tylenol, Advair, Protonix, Folic acid	None	None	SDEB
RT-PCR	F	58	Caucasian	Non-Hodgkin's Lymphoma	Septra, Multivitamin, Fish oil, Fluconazole, Acetaminophen	None	None	SDEB
RT-PCR	F	52	Caucasian	Metastatic lung cancer	Berztopine, Oxybutin, Domipramine, methadone, Seroquel, Levthyroxin, Setaline, Morphine	Yes	None	NDRI
Cornea Histology	F	47	Caucasian	Stroke; Depression	None reported	Yes	None	NDRI
Retina Histology	F	78	Hispanic	Sebaceous gland carcinoma	None reported	Unknown	Unknown	UCSF

F, female; COPD, chronic obstructive pulmonary disease; SDEB, San Diego Eye Bank; NDRI, National Disease Research

Interchange; UCSF, Department of Ophthalmology, University of California San Francisco

Supplemental Table S2. The genes analyzed and their respective PCR primers.

Gene Symbol	Forward Primer	Reverse Primer
ABCA5	CCAAACAGCACATGTGGCGAGCA	ACAGACAGCCTCTGCCTCCTCCAT
ABCB9	TGAGTCTGGCCAGGGCGGGT	AGGGGCGAAAGCGCTGGGTG
ABCE1	ATTTTGGCCGGTGGCCGTGAGAA	CCAGCTCTTCTGGAGAAAACGATCCC C
SLC10A5	AGACAGTCTACTCCAGGCACCAATGC	TGCGCCTCAGGCAATGCCACAA
SLC11A1	CGCCGTGGCGGGATTCAAACCTTCT	TGCAATGGCCGTGCCGATGACTT
SLC12A5	TAACCGCACGCTGTCTCGCCAT	ACAGGTGGCGTTGAGGAAGCGA
SLC12A6	AAAGCGAAGATGCCCCGCGCT	TGCACTTTCGCCACACCTTGTGC
SLC13A3	AGGAGACAAGCAAGGAAGGCCGC	GCGATTCGCCGGTGCAGGTT
SLC13A5	CTGCCATCTTTGCCTCCATGGTGAA	AGGTGGCCCATTGGCTGGGTTT
SLC14A1	AGGGGGCATTTCCTGGGAGCCA	GCCGTGAACAGGGCACAGCCA
SLC15A4	ACAACCACTCCTCACACGCTCCCT	TGCAGCAAAGGCCGAGCACATGA
SLC16A10	AACTCGCGTCCCTCGCGCTT	TGGCCGCCAGCATCACCAGC
SLC16A11	AAGCGCCCAGGACACTGCGT	AGGGCCAACCAAAGCCAGCG
SLC17A3	CTGCTCGCTATGGAATAGCCCTCGT	GCTGGGATTGAGGGCTTGTGCTGT
SLC17A8	ATGCAGGGGCAGTGGTTGCCAT	TGTTGGATGAGCTGCTGGGCACT
SLC18A3	TGCACTCGCTGGGCTTTGAGCA	TTGCGGTGGCTCATCAAGCAGCA
SLC1A5	TTGGGACCTCTTCCAGTTCCGCCA	AATGAACACTGCGGCCACGCAC
SLC22A17	ACCACCAACGCCATCGGCCA	CGCACAGCTCCAGGCGCATCA
SLC22A23	TGCTCACCAACGCCGAGCTCAA	ACATGGCCTTCATGCCGTTGGC
ABCA10	GGGCAGCAGCAAATGTGGCAGATA	ATGGCCATACGGTCACACACAGCC
ABCA6	TGCTGTGGCCCATGCTGACGTT	ACTGCCTGGATTGCCTGCCACAT
ABCA7	AGCGCTTGGGAGACAGGCAGTT	TGTGGCAGGAGTTGGCTTCGGT
ABCA8	GCCATCACACGGTTAGTGGATGCG	TTCTAAAGGTGGCCCGGATGGCCT
ABCB10	TCCCTGGCACAAGCCACTCAGCTA	TCCGGAGAGCCCAGTTGCTCCAAA
ABCB7	TCGCGATGCATTCTTGGCGCT	TGGCCATACCTGGAGAGCCTTTGC
ABCB8	TACAACACGGTCGTCGGTGAACGG	AATTACCAGCACCGTGCGGCCT

ABCC9	ATTGGGTGGGGGAGCCAAAGCTCA	TCCCGCCGCGAGTCTGAAACAA
ABCD2	GGCAAACCTGGTGGCAGAGGAAGCA	GCCATCCTCACCATCTGCAAAGCC
ABCF2	AGCGGGCCATGCTGGAGAAAGA	AAGAGGGCTCTGGCAAGGGCAA
ABCF3	GTCACCGCTACACATGCGCCTT	TGTGCAAGACGCCGGTCACGTA
SLC10A3	ACCATCAAGAACCTCGTGGACGCC	TTTTCCGAGAAGTGGGCCAGGTCTG
SLC10A4	GACGGCGACATGAACCTCAGCATC	GCGAATGAAGACGCCCAACCCGAT
SLC10A6	TGGTCGCAGTTGCTGGTGTGGT	TCCTGCACCTTTGCCAAGACTGGT
SLC10A7	AGGGGTGAATGGGGGACCACTGAA	AGACACAGGCGGAGGCATGCAA
SLC11A2	AAGTGGTCACGCTTTGCCCGAGT	ATCCGCCAGCCTAGTCCATTGGCA
SLC12A1	TGGAATGGGAGGCAAAGGCCCA	ACCCTTTGTGAAGCGTGGCCCAA
SLC12A2	TGGCAAGACTGCAACTCAACCACTGT	GCAAAGTAGCCATCGCTCTCCGGT
SLC12A3	AGCACCTTCTGCATGCGCACCTT	TGCAGGTGTCTGCCTTCCTGCTTG
SLC12A4	TGCGCCTTGAGGCCGAGCATAA	TTGTCAGCCCCCACTGCAGACTCA
SLC12A7	AGCATGAAGCCGGACCAGTCCAA	TGGGAGGACCTGGCATGTTGAGCA
SLC12A8	TTGCTGTTCCCTGCTGGCCGTGT	TGAAGCCGGCCATGACTCCTGT
SLC12A9	AGTTTTGTGGCTGTGGGGCCGA	TCAGCATAGCCAGCGCCCAAGT
SLC13A1	AAATCCTGCATGGCTGACGCTGGG	TGAGTGGCCTCGACCTCTGCTTCT
SLC13A2	TTTCGAGAGCCCAGGGGAATGCCA	ATGAAGCCCAGGATTAGCGGGGCA
SLC13A4	AGGCCTCGTGTGCTTACGTGCTGA	TTGAAGTACTCCGCCGCCACCTCA
SLC14A2	TGGCTTCAACAGCACCCCTCGCA	TGCAGGGCGGCAATCCAAACACA
SLC15A3	ACCTCCGTCATTGTGGCAGGAGTC	ATGGACAGTGGTGCCGCGTTGTA
SLC16A12	TGCACACGGGCAGTCACAAGATGT	TGCAAGCAAGCCACCCAGCATGA
SLC16A13	TTGTGGCGGCGTTTGAGGAGCA	AAAGCCCAGCCAGAGCCTGACA
SLC16A14	ACCTGGACTGAGGCGTCGAGCTTT	TCCAAGATTTTTCGCCCGAGGCC
SLC16A4	TTTGTGCAGGTCCCCTGGTTGCT	TCAGTCCCATCCCAGAACGGGCAA
SLC16A5	GCCCGTGCGAGCGGTACAAAGAAA	TGCCAATGTGGCTGCTGCCTGT
SLC16A6	TTTTCAGCTCCCCTCGCCACAGT	GCTGGTGCGAAAGCAAACACAGCG
SLC16A7	TGGCCCTCCTCTTGCAAGTAAATTGGT	TGCCAATGAGCAGCCACACGCT
SLC16A8	AGAAGGAGACTTGGGAGGCAGCGA	GCGGAAGAAGACGCTCACGGCTTT
SLC16A9	GGCTTGCTTGCAAGTCCTGTCTGC	TCAACATCAGGCCTCCAGCCACCA

SLC17A1	TCCCGAATCAGTGGGTGGAGGCAA	AGGCACGCACGCTGTGCTGTTAT
SLC17A2	AAGCCTGCCACCAGGAAAGGTCCA	TTGAAGGCATCTGCAACAGGCCCC
SLC17A4	ACTTGCTGGTGGTCTCCTCTGCCA	AGCCTGGTGAACAGTCCTGCTGAG
SLC17A5	TGGCACTGCTGTCCTCACCTGT	TGTCCCAAGCTGTGCTCCTGCAT
SLC17A6	TTCAACTGGGACCCGGAAACCGTG	GCAGCTCCGAAAACCCTGTTGGCT
SLC17A7	AGCTTTGGCATCCGCTGCAACCT	AACTGGGCTTTCTGCACCACCACG
SLC1A1	ATTGCTGTGACTGGCTCCTGGAC	CCCGTCCCAAAGCATCACCAAGG
SLC1A6	AACCATCAGCATCACGGCCACAGC	AAGCTCCAGCTCCCGCTGAGACAA
SLC1A7	ATCACAGCCACTGCAGCCAGCAT	GCAGCAGTTTCTCGGTGCCTGTGT
SLC20A2	AGCACCAGTGCTCGGCCTTGTT	TCCGCATCCACGGACACACGAA
SLC22A10	TGCGTGTGGCTTTGGCATGTCTG	AGCTCTTGCCCTGAGAACAGTGGG
SLC22A11	ACCCTGCGTGTGGTCTTTGCTGTG	TGCTGTCATCCGCACTGGCGTT
SLC22A13	TCACCACGGTCCCCCAAATCAGT	AAGCAAGGCTGGTCTTGCCCTGT
SLC22A14	ACCCCAAGCACCCAATGGCAGTT	AGGGTAGCGGCCATCTTGTCAGT
SLC22A15	AACTCGCTTCCTGGTGGGCATGA	AGGCCGCAATCGATCCTGCAA
SLC22A16	TCCCGCCTACACCTTCGTGTGCAT	CGCTTCCCACAGCCAGCGATCTTA
SLC22A20	ACATGTTTGTGCCAGAAGGCACGC	ATTGCGGTGGCCCCAAAGCTCA
SLC22A25	GCTTCTTGGCTGGGGCTGCTACAT	CAGACTCTGCCAGCCACCTTGAGA
SLC22A4	TCCACCGTCGTGACCGAGTGAAT	ACAGCCATGGTTGCGAAGAGAACG
SLC23A1	GCCGGACACAGCATGAAACCACCA	TGGTGATGCCACGCACGTGAA
SLC23A3	TGGCTCTGCAGCATGTCTTGGTCA	AGTTTCCAGGTGTCTGGATGGCCC
SLC24A1	AACAGCACCATCCGCAGCACCA	TCAGCCACATCTTCCTGACCGCCT
SLC24A2	TGCAGAAGCCCAGACCGCTGAT	TGCGCCCACCAGACCATCAAGT
SLC24A3	TGCTGGGCAGGTTGTGGCTCTT	TGCGTTCGAGTTGCTGCTGT
SLC24A4	AAGGCCTTGGGGACATGGCAGTCT	TTAGGTGGATGCCGAGGACGGTGA
SLC24A5	ACGTCTCCAAGGGCCACAGGAAA	TTCAGGAGCTGAACTGCCCGCT
SLC24A6	CCGCAAGGTGTGTGGCCTGAATGT	AAGGTGACGCCTGCCACGTTGT
SLC25A1	TTGTGCGGGAACAAGGGCTGAAGG	AAGACACTGGCTGCGCCTGCAA
SLC25A10	TGCAACCATGGCATCCAGCCGA	GCGCAGTGGAAAACGCCCTGAT
SLC25A11	TGGCCGGGATGGGAGCTACAGTTT	TCAGGCGCTCAAACAGCACGGT

SLC25A12	AGGGACTGCAGCTCGAGTGTTTCG	TGCAAACGTGGCTGTGGCGA
SLC25A14	GGCCGTGATTGTAAGCGGACACCA	GCGAAACAGCGCATGGAACATCCC
SLC25A15	GGGTACCAGTCCAGCACTAATCGCCA	GCGGCTGCATTCTGCAGATCACTCA
SLC25A16	TGGCTGGATCCATGGCAGGTATGACA	GGGTAGGAGCATGGGAAAGCCCAA
SLC25A17	AGCCGTGGGAAGCGTGACAGCAAT	ACCACCCTCGATATGGTGCCAGGA
SLC25A18	TGGCCAAGACTCGCCTGCAGAA	GGTTCCGCTGCATCCCATCTTCCA
SLC25A19	AGCTCAGGGTGAGCCCAAGGTCTA	AAGAGAACTGCAGCCCGGCGTA
SLC25A2	ATTTGCTGCACTGGCTCTCTGCC	AGAAGCCCAAGGGGCCATCCTTT
SLC25A20	ATGGCCGACCAGCCAAAACCCA	TGCAGTCGGACCTTGACCGTGT
SLC25A21	AGGGCCTCAACCAGTTCCTGGAGA	CTGCACCACCTGGTCCAAGTCTCA
SLC25A22	TGCAGAACCAGCAGAACGGCCA	AAGTTCACAGCAGCTCCCCGGT
SLC25A23	CCTGTGGCGCGGCAATGGTATT	AGCCGCGTCTTCAGCACCTCCATA
SLC25A24	CGCATGCAGGCTCAAGCCATGTT	TGCCTACAGCAGGGAGCACCTTCA
SLC25A25	ACCCCGTGGAACATCCCCGA	AGGCATGGACCTGCATGAGCACCT
SLC25A26	TGGCTGGTGGGGTAGCAGGTGTTT	AGCAGCAGAAGGAACGCCAGCA
SLC25A27	TACCGTGGCCGAGCTAGCAACCTT	TCTTGCACCGTCTCCCAACCGA
SLC25A28	ACCCTGCGGAAGTGGTCAAGCA	AAGGCCCCGGCCCCTTCATTTT
SLC25A29	CGTGCTTGTGGGACACCCGTTT	TTGTACAGGCCCAGCACGCTCT
SLC25A3	AAATGCCGTATGCAGGTGGACCCC	AGCACTGGCAGAGGCAGCCAAA
SLC25A30	CGGATGCAAGCGCAAAGCAACACC	TGCGCAGTAAGGGACACACCCTTC
SLC25A31	TCCTCGCGAGCAGGGTTTCTTCA	AGCAGCTCCACCAGAAGCCAGGTT
SLC25A32	TCGTGAAGATCCGCTTCGCCGT	TGCAGAGGGTCATGGCTCCAGCTT
SLC25A34	AGCAACAGTGGCTCCCTGAGGACA	AGCCAGTTTCCGAAGCTCGTCCCA
SLC25A35	AGAGCTGGAAGTTGGCGCTGGT	TTGGGGACTCGGTTCTTGCCCTGT
SLC25A36	TTGATGCAAGGAACCGCGGGGA	TGGCAGCAGCTAGCATCATTCCCA
SLC25A37	AACAGCCACCTAGCCAACGGGAT	TTGCTGACCGGTGCTGCGAGTT
SLC25A38	AGTGCCTCATGACCAGGTGGATGC	CGTCCACGCCATTGCTGCCATT
SLC25A39	TGCGGACAAAGCTGCAGGCTCA	ACCAGTACAGGGCTGAGAAGGGCA
SLC25A4	CGGCATAAGCAGTTCTGGCGCT	TCAGGCAGCATCCCCTTGGCAGTA
SLC25A41	AATACAAGGGTCCCCGCCCTTCCA	AACCGCGTCTTCAGCACCTCCA

SLC25A42	AAGGCCCGGTGCGATTGCATGA	CCGGAAGGCCTCCTTGGCAGAAAA
SLC25A44	AGGCTGATGGACTTCGCGGCTT	TTCTTGCCCTCAACCTGCACACGG
SLC25A45	TGCAGGCCTACTGTCTGGCTCCTT	TGGCTGAGCTGGGATTCTGGCCTT
SLC25A46	CGGACGGATTTGATGGCTTGGGCT	TCTTCTCGCCCCAGTGCAGGTT
SLC25A5	GCAGTCAGGGCGCAAAGGAACTGA	AGCACAAAAGCACCACCCATGCC
SLC25A9	TTTTGGCCGGCTGCACCACA	GCAAAGTTCCTTTCCACAGGCCCC
SLC26A1	AACAGCAGCACCTCAACGGCT	AGGACGTCTGGTAAAGCCCGGTCA
SLC26A10	TGGGAAAACACAGCTGGCAGGC	TGCCACTCCAGGTTGCAGCGAA
SLC26A11	TTTCGTCGCCGGCCTCTCAGTT	TCCAGCAGGAACCCCAAACGCA
SLC26A2	CCAGTGCAGTCCAGCCAAAGCCAA	TTCTTGCCAGCCAGCAGGGAA
SLC26A4	TAGTGGCCACGCTGCAAGGGAT	TCGGGGGCCATGCTCAGAACAA
SLC26A5	ACCGCAGCAGCTGTGCATGTCT	TGCCAGTTCCCATTACGACCGCA
SLC26A6	TCATGCAGCTTCCGCAGGGCTT	TGCCGGGAAGTGCCAAACAGGA
SLC26A7	AGCCAACGCCGTGGAACGGATT	TGGCCACCTGAATCACACCTCCA
SLC26A8	CGCTGCTCATGGCACAGGTTCTTA	TGTCAGGCCTTGGGGAACTTGCAC
SLC26A9	TGGCCAACAAGCACGGCTACGA	AGGCTGGCCACCTGGGATTTTCT
SLC27A2	TGGACCGGCGCAGCAATCAAGT	GCTGCTTGTAGTTCTGGCGACACC
SLC27A3	TTGTCAACCAGCCCCCGAGCAA	TAAAGCCAGGAAGCACGCCCA
SLC27A4	ACCGCAATGAGTTCGTGGGCCT	ACAGATGGCTGAGGCCATTTGCT
SLC27A5	TGCGGCAATCGGGCGACGTTTA	TACCCTCACAACTGGCACGCA
SLC27A6	TCGTTACGTGTGGTTCGGCCT	CCAAGCAAATCTGCGCCACCA
SLC29A3	AAACTCCGCAACTCCTCCAGCCCA	ACGGATGTGGACTGCAACCCTGT
SLC29A4	CAGGATCACCGCAGGCTACCTCTT	AGCTTCGTGAGGATGCGGCTCA
SLC2A10	TTGGGCCAGTGACCTGGCTTGT	AGAGGTTGGCCGCCAGTTGAA
SLC2A11	GCTCGTGGGAGTCAATGCAGGTGT	ATGAGGAGGTAGCGCGGGCTTTCA
SLC2A12	GCGAGAGGCTGCGGCATGTTTA	AGCTTCCGAGTCCAAGCAGGCA
SLC2A13	TGCTCAAGCGGCAGCTCAGTCT	AAGCAATGCCGATGCCGAGTCC
SLC2A14	CCCTCTGAGGTGCTGCTCACGAAT	ATTGCGCCTGCCAAAGCGGT
SLC2A4	AGGGGCCTGCCAGAAAGAGTCTGA	AGCTGCAGCACGACCGCAATGA
SLC2A5	AAGGGAGGCTGACGCTTGTGCT	TGCATGAGCAGTGCTGGGGAGT

SLC2A6	TCGCCGCAGTGCTCGGCAATTT	TCCCAGGGTGAACACGGACCCAAA
SLC2A7	ATGTTGACGACGCCAGAGCCCA	ATGTTGACGACGCCAGAGCCCA
SLC42A3	TGCAGCATGGCCTGGAACACCA	ACGTCCTGGAAGCTTGGGTAGCGA
SLC43A1	TGGTTGGCAGTGCCTGCTTAC	AACGTGGAGCGCAGGTTCCCAA
SLC43A2	ATGCACAGCGTGTTCAGCCCCA	AGAGGCCAACTGTCTTCTGGTCGC
SLC43A3	TGACATCCCTGCTGTGCCTGGGCTT	TTGCTCCCATAGAGGAAGGAGCGGC
SLC44A1	AGCACTGTGTGTAGCAGCGTGTCC	AGGTGCACTCGCTGGAAGTGGT
SLC44A3	TAAAGCCATCAGCAGTGTCCCTTCC	AGTTCCCAGGCTCAGCAGCACA
SLC44A4	ACTGGCTGCCCATCATGACCTCCA	TCAGGGCCGGAGCTGTCACTTCTT
SLC44A5	AAAGCTTGCCCTGGGGCTCTGT	AATGCACCAGCAAGGGGCGCA
SLC45A1	ATGGGCTGCTGGGGCATGTGTAT	CCGCACTGGACCCTGCAAACCTTCT
SLC45A2	AGGTTGCAAAGGGCATTCCCCCA	TGCCCTGCGAGTCTGTTCAGCA
SLC45A3	ACCGGAAAGCCCAGCTCTTGCT	CACTGGACCAATGCCCAGCACCAT
SLC45A4	AGCCGTGATGGCCATGTTTCCCA	GGGGCTGTGGTGGATGTACTGCTT
SLC46A1	ACCCACCATGCAGGAAGTGGAGA	AGGGCACAAAGGATGCGACCCA
SLC46A2	ATCTGCATGTGCTGCTGGGCT	AAGCCGCCGAATAGCCCGTTCA
SLC46A3	TGCTCTTGCAACCAGCGTTTGGC	AGGCAAAGCAAGCTCCCCAAAATGTG
SLC47A1	AGTCACGCTGGCAATCGCGGTTAT	TCACGCCACGTGCTTCAGGTT
SLC47A2	ACCCCGGGTTTGTCCATCCTCCAT	GACACAGTTGCCACCACACCACT
SLC4A1	TGCGTTCCGTCACCCATGCCAA	AGGATGGACAGGCCCAAGCACA
SLC4A10	AGCCGCTGCTGCCTACGAGAAA	GACCACGATGCCTGTGACGTCGAT
SLC4A2	ACGAAGTCCAGAGCGAGCGGGTTA	AGAAAGAATCTGCGCCCTTGGCGG
SLC4A3	CAAGTCCAAGGCTGCTGTGTTGCCT	TCATCTGTGGGCACCTGCTGCTCT
SLC4A4	ATACATCATGCAACCCACGGCCC	AAAGGCTCCAGCGAGGACGCAT
SLC4A5	GGACGGTGCTGCTGGATTTGGACA	TCCGGGCAGGACTGCGATTTGT
SLC4A7	AAGCAGCGCTGAAAGGCGAGGA	TTCGCCCACCAGGACGTTGGAT
SLC4A8	AAGGCCAAGGAGGAAGAGGAGGCT	GCACCACACGGCCCAAATCTTCCA
SLC4A9	AATGCATCCTTGCTGCCGCCAC	TGAGCCCTTTGCGCACCCACAGA
SLC5A10	AATTCCTGAACCCAGCCCCACCGT	TTCCAGCCACCACAACAGCACCA
SLC5A11	TGGGCAGGGTGTGTTGTGCTGCT	ATGATGAAGACCACCGCCACAGGC

SLC5A12	TGAGCACCGTGGCTTCCAGCATP	TGCTGAGGGAAGCCTGCACAACA
SLC5A2	TGGCGTTGGCTTGTGGTCCATGT	TAGCAGCACACGAAGAGCGCA
SLC5A3	TCCGGCGCAGCAGTTTCTAGGT	TGTACCAACCCCGCTGCATGGCTT
SLC5A5	AGTGGCACCTCAGCACAGCAT	AGGCCGGCAGGAACATTCCCAA
SLC5A6	TGCCAGCCACAGTGAGCCCCTATT	ACCCGGTCATGGCCCTGGTTTCTT
SLC5A7	ACCATGACAGCTACCTGGGTGCGA	ACAGGAGTCCGCCCATGCGTTT
SLC5A8	TCTGCACCAGACCAGCTCATGCCT	ACGCCAGCGCAGCCATTCCAATA
SLC5A9	TCGAGTGGAACGCAACCTGGCT	CCTCTGGCCCCCAAATCGCTTCTT
SLC6A1	AGGCCCTGTGGCCAATGACAA	AAGGCTCCCCACCATTTTCCCG
SLC6A11	TCGGCTGGGTGTATGGAAGCAACC	ACAGGGCCATGAGCCAGCCAAT
SLC6A12	ACGGGAAGGTGGCAGTGCAAGA	TGTTGGTCCATTGGCCCCGATCCT
SLC6A13	TGGCAGCAGCTTCACTAAGGTGGG	TTGTTGTTCCAGTGCCCCCGCT
SLC6A14	GCCGAGGGAGTGAACCATGGACAA	AAGGCGCCTCCACCATTGCTGT
SLC6A15	TGCCACCACCTATTACTGGTACAGGGA	TGACCCAGGCAGCCAACAAGCA
SLC6A16	GCCCTGAACCAGAAACCCACGCAT	AGATGGCAGCGAAACTGCAGCC
SLC6A17	CACGCGTGACAGGTCCCTGAATGA	TGCTCACTGCTGTGCTCACGCT
SLC6A19	TCTTCACGCCCAACGTCACGGA	ACGGAGTAGACCACGATGGCCACA
SLC6A2	TGGATCACAGCCACGCTGCCTT	TGCGGCATCAATCCATAACCGTGGC
SLC6A20	TCGCCAGCTACAATGAGCCATCCA	AGGTGGCCTTGAAGCCATAGATGGAG
SLC6A5	TGCATGGGGAGGCCTGATCACTCT	TGCAATGCCTGGCCCTTGGTCT
SLC6A6	ACAAGCTGCGCCAAGAGGGGAGT	TGGCCATCTCCTTGGTTTGGGAGC
SLC6A7	ACAGGCCATGACCATGCTGCCT	ACCAGCCAGTACATGCCCCATCA
SLC6A8	TGGTGCTGGCCTGGGGCTTCTATT	CCAGGCTGGCATTGGCACAGTCTT
SLC2A8	TCTTCATCGCCGGCTTTGCGGT	TGCAGAAAGCGGAGGCAAGCCA
SLC2A9	TGAATGCCCCACCCCGTACATCA	AGCAGGCCATCAGCAATGCAGC
SLC30A1	ATCACAGCGGCTTCAGCCAGGA	TTTCTGGGTCTGCGGGGTCCAA
SLC30A10	TGTGTCCCCGGCGCTTTCGG	ACAACCACGGACCCAGGGC
SLC30A2	GCTGCGCTGTGGCTGTGAACAT	TGGGGTCCCTTCCATCAACACCA
SLC30A3	ATGCCCTTCCACCACTGCCACA	AGAGTCTCTGAACGGTGCCAGCCA
SLC30A4	CGCCCCAGGATGGGGAGGGA	GTGCGGAACGGCTTGGGGGA

SLC30A5	GCTCGTGAGCCCCGGGATGG	TGTTAATCGAGCGCTGGGTACGTCCA
SLC30A6	AGCAGCTGACCGAAGGTCCTGGAA	ACTGTGCCAAGACTGTGGAGGCAA
SLC30A7	TGGCTGGACTGGCAGCTTCTGT	TGTCCGTGGCCAGAGCCATGAGAA
SLC30A8	AGCCACAGAAAAGGGGGCGAA	AATGTGCCACCCACGACCTCT
SLC30A9	TGGAAGTTTGGGGAAGCCCTGAAGC	GCTGTTCTGGAGCGTGGCTTGGT
SLC31A2	AGTCCTGCTGGCATGGCCCTTT	TGCTGGCTGATGGAGGTTGGCA
SLC32A1	ACCAACGCCATCCAGGGCATGT	AGCACACAACGGCGGCGAAGAT
SLC33A1	ACACTGCAGGTCCCCAGCCA	GCCAGTTTCCTCCCAGATTGGACAGC
SLC34A1	TGTCCAGCGCTTTCAGATTGCCC	AGCGGTACTTGGCCGTGCGTTT
SLC34A2	TTCACTCCAGATCGCCCTGTGCCA	AGCGAGAGGCCAAACACCGTCA
SLC34A3	ACGTGGTGCTGTCCAACCCTGT	ACACCCGGACAGTCAGCAGCTT
SLC35A1	TGGGGAGCCCCAAGGAACTGTTG	AGGTCACCTGGTACACTGCTGCATCC
SLC35A2	ACCGCTTCTTTGCCACCACTGC	ACCAGGTGCTTCACGTTACCCCTC
SLC35A3	TCTTCAGGCACTTGGAGGCCTTGT	AGTGGGATTTCTGCAGGTTTGGGA
SLC35A4	TCAACAGTGGAGTGGGCCAGGATG	TGCCTCTTCCATGGCACCTAGAGC
SLC35A5	GGATAGTGCTGAAGAGGCGTCTAAACTGG	TGGCCCATGCCAAGACGGATGT
SLC35B1	CAGTGCCCTGGGTCAGAGCTTCAT	ACACAAGCACAGTGCCACCCA
SLC35B2	TGCCACAGGGCTCCAGGTGTCTTA	AGGCCAGCCACAATCAGTGCCA
SLC35B3	CCCTACCCAAGTCATCTTCAAGTGCTGC	AGCACCACACCCGTCAGGTTGA
SLC35B4	TCACTCAGTACGTGTGCATCCGGG	AAACAAGGTGCCAGCCAGTGC
SLC35C1	ACGCTGCTGTGCAAAGGCCTCA	ACCAAGCCAGAAGCCCCCGATGAT
SLC35C2	TTGGCAGCTCATCTGCTGGGCGAT	TTGGGGCCACCATCACCTCTGGAA
SLC35D1	GGCAGCCATGGCGGAAGTTCAT	TGGCCACCATCTGGCCAAGTCCAA
SLC35D2	ACGACAGCAGTGGTTGGAGCCAT	TCTCAAGCCCCCTGCCATGCAA
SLC35D3	CTGAGCCTGGCGCGCTCCTT	CAGGTCGCCGGCTCCTGCC
SLC35E1	TGGTCAGCAGCGACTTGACCTACG	TGGTGACTGGGTTGCGCAGCAT
SLC35E2	TTTTTGCCAAGAGCGACGGCGG	AGCATCTGCACCGCACCTAGCA
SLC35E4	TCCGCGGACTCAAGTCGGTTCA	AGACAGGAGGCAGCTGAGCAGGAT
SLC35F1	TCCGCAAAGTGCTGAACAGGGAGA	TGGAAGACTGGTGTGTTGGCGTGG
SLC35F2	TGCTGGCATTTCGATCAGGCAGTG	ACAGCCACGGCGATGAAGTGGA

SLC35F3	GGCAAGAGCATTGCCGTTGGCAT	TCCACGGAGCGCGACCATTTC
SLC35F4	GCTGTGGCTGGCCTTCAACATCCT	ATGGTAGCAGCCAGGCGGACAA
SLC35F5	AGGCCAGGGGTGCTGAGTTCTTCA	AAGAGCCATTTCGCTGCGCTGA
SLC36A1	ACCTGCCCAACTGCTGGTTGTACC	TGCGCACAAACAGGTCCACCACT
SLC36A2	CATGGTCTGCCTGACATGCCTCCT	ACCACAAAGCCCACGAAGCCCA
SLC36A3	GAATGCCGGCTTGTTGGTCGGT	TCAAGGCCGTACATCGTGGCCT
SLC36A4	GCAGCATGGGGGCGGAGTGT	AGCCATGGAAACGTTGGCAAGGAATG
SLC37A1	ACCATCGCCATGCTGCTGCTCA	CGTGCGCGTTGCCTTTCAGACT
SLC37A2	TCGTCAAGAGCCGTCTGCACCA	AGCGGAAGCCGCTCCCCAAAAA
SLC37A3	TGGTGACGGCGTCTGTGCAGT	GGCGTAGGCCAGTGAGTACGGT
SLC37A4	TCATGGCCAATGTGGGCGGCTT	CGTGCTGGCCGCACAAATCACT
SLC38A1	TGTGATCCTCACAGTGCCGGTGT	GCCCAAGAAAAGGGCAGCCCAA
SLC38A10	AGAAGCCGAAGCTGCCGAAGGA	AGGCACAGCAATCCCTTGCCCA
SLC38A11	AGCAAAGCTTGAAAGGTCTCCCTCA	ACCCCGACCGCTTGAATGGCA
SLC38A3	TGATGCGGCAGCTTGGCTACCT	TGGGCAGGGCACGTGGAACCTT
SLC38A4	AACTCCCGGACGGCCTATGCAA	ACAAGGACTGCCAGGCGAACCA
SLC38A6	TGCTGACAGTTGCTCTCCTGGCT	TGCCTGCCACCACCAACTTTCCA
SLC38A7	TGGGCTGTGTGTGGCAAGCTGA	ACGACGCTCAGGAAGCTGGCAT
SLC38A8	AGCATGCGCAAACGGAGCCTCT	AGTCCTGCATCACTGACCTCCCA
SLC38A9	TTCGGCTCCTTTGGGCAGTGGT	CCGGCACTTGGACAAATCACAGGG
SLC39A1	ACGTGACGCTCCAGTTCCCACT	ATGCTGCGGCCACCATTCACT
SLC39A10	TGCTGCACATAACCACCACGGC	AGCTGCACCAATTGCGAGCCCA
SLC39A11	ACACAACGTTCCAGAGGGTCTCGC	AGCACCACGGCAAAGGCACCAA
SLC39A12	CCTGGGATCAGACCTGCTTCTCTGC	GACCAGCGCTGTCCCCAGCA
SLC39A13	TGCCGTGGTCCGGAGCATCAA	AGGATGGCAAAGTCGCCACCTCA
SLC39A14	GACACAGGAACCTCTCCACGTGCT	CGTTTTCTGGTTCTCCGAGGTGC
SLC39A2	GGTTCAGATTGATGCAGCCAGAGGTCA	GCACTGCAATGCCAGCGACTCC
SLC39A3	CCGGGAGTTGCTGGACTGAGACAT	AACACGCCCAACATGCACAGGA
SLC39A4	TGAGCTGGCTGCTGCAGAGGAT	ATCAAGGCTGACAGCTCGGCCA
SLC39A5	TACCGCATGCACAAGAAGGGCG	TGCCGCAAAAGCCCCAGCAT

SLC39A6	AGCGATGGCCTAGCAATTGGTGC	CCTGCTTAACGGTCATGCCAGCCT
SLC39A7	AAAGCAGGCGATGCGTCTGCAACT	AGCAGCTCGGGCAACACAGACA
SLC39A8	CCCATGTGAGGATCGGCCAAGC	TCGACTTTGGGATCAAATCCAAATGC CTCT
SLC39A9	AGCACAGCCACGACCACACACA	ACACCATCAGCTGCAGCATGGACA
SLC40A1	CGGATGTGGCACTTTGCGGTGT	ACCAGCGAGGTCTGGGCCACTTTA
SLC41A1	TGGACATCGTGCAGCACTGGGA	AGCCAAAGACGACGGCTGCGAT
SLC41A2	GGCGCTGTGTTACAGGTATTTACCTTGCT G	GCTGTCCCAGCAGATCACCCA
SLC41A3	TCATCCAGGTGCAGGCCACTGT	GCTGCAATGGGCGTGGCAATGT
SLC48A1	ATCACCCGGCATCAGAGCCTCACA	TCACCCCCTGGGTCAGAAATCGCT
SLC22A2 splice	TGGTTGCAGGGGCAGCCTGT	TGGGCCGTGACACTCCCTTTCTCC
ABCC7	TGTCACTGGCCCCTCAGGCAA	CCAAAGAAGCAGCCACCTCTGCCA
ATP1A1	TGTTGAAGGCACCGCACGTGGTA	CCGTGACAGTGGCCAGCAAACCTT
SLC42A1	TGCTGTGGGCACTTGTGCGGAT	CATAGACGTGTTGGAGGCGCCCAT
SLC42A2	ATGCACCAGCTCTTCGGGCTGT	CAGGCACCTGCCAGTGAACCTGGT
SLC6A9	CCCCAGAACAGAATGGTGCTGTGCC	ATGAAGGCGCCTCCCCGTT
SLC7A10	TCCAATGCGGTGGCTGTGACCT	TACGTGTGCGCCACGAGCATGA
SLC7A13	TGTCTGGCATTGGCCATGTTGTGG	TGGGCTTCTTCAGCTCCCCTGCTA
SLC7A14	ACCCTCAATGGCCTGGGGAAAGGT	AACTGGCCCTCCGCCAGTATTT
SLC7A2	AGCAAGTGCCAGAGAGCCACCT	TTGCAGCACCAGCCAACGTTCC
SLC7A3	GGGCCTGGAGCTCTGCTTTTGACA	AGCCCCGAGAGCCAACAATCCAGT
SLC7A4	TGCCATTGCAGCTGGTGCCTACA	AGGACGGTGTTTCATGGCGCAGA
SLC8A1	ACTGGAATGGCTGGGCGTGTTTCA	TGCTGGCAAATGTGTCTGGCACTG
SLC8A2	TGGAGTTTGGCGACGACGAGACCA	AGCTTCCTGTCCCCATCCCCTTGA
SLC8A3	ATTGGCAACGTGACGGGCAGCA	GCCTTCGGTACAAGAGCACGCTGA
SLC9A1	TTGTGCAGGGCATGACCATTTCGGC	TGTCCTTCCAGTGGTGGTGACCGT
SLC9A10	ACCAAGTCTGCAGCCTCTGCCCT	ACGCCTGTTGGCCAGCTCCA
SLC9A2	TGGGTGTGTCTACCGTGGGCAA	ACAAAACACCCAGGGCTCGCCAC
SLC9A3	ACAAGCCGCGGCAGGAGTACAA	TTTCTCCGCTTCTGGGCACGCT

SLC9A3R2	TCCCTTCCAGGAGAGCGGCCT	AAGGTCCGTGCGGGAGGGGT
SLC9A4	GGAAAGCCGGCTGGCACCAAGAAT	ATCCGAGAGCATGCGCTGAACGTG
SLC9A5	ACAAGCCGCGCCGTAGGTACAA	AGCCGCCGCTTCATGTTCTGCT
SLC9A6	TGTTTGCTGGCCTTCGTGGTGC	TGCCACCACCAAATACCCACACGG
SLC9A7	AGTCTTACAAGGGGACGGCCCAGA	TCAGGTCGCCTTCGGTCAGGATGA
SLC9A8	ACGCAGGAGGACCTGCACCAC	TCCTGGGCCTGCCTGCCTGA
SLC9A9	TGCAATGGGGTCTGCGTATGCCA	AACTATCCCTGTTAGGCCGGCAGC
SLCO1C1	AGGGCCAACTTTGTGATCGGGCT	TCACAGCCCAGTGCAAACAGGGA
SLCO4C1	CTTGGCCGTCACGCAAGGTATTGT	GCTGCAAATGCAAGCCATCTCGGC
SLCO5A1	TTGAAGCAAGGCCCGAACCCGT	TGCACACCAGGAAGCAACGGGAA
SLCO6A1	TGCCAGACCCGGGAAATGTGATGC	TGTCAGGTACAACCCGCGTCATGG
NR0B2	TGCGGTGCAGTGGCTTCAATGCT	CTGGCACATCGGGGTTGAAGAGGA
ABCA1	GGTGATGTTTCTGACCAATGTGA	TGTCCTCATACCAGTTGAGAGAC
ABCA12	GGTCACGTTGATTCTCACAGC	GTTCTTCCACAGTTACCAGGTCATC
ABCA13	GACCCACAACCTTCGGCATTG	AAGGTCCCAGTGTAGCAGAAC
ABCA2	CGTGAACCTTGCCAAGAAG	CTGAGCAAGCAGCCGAGAG
ABCA3	GCTGACTGTGATTAGGTGCTG	AGAGACTGCTTCGAGCCTG
ABCA4	CACTAGCAGCTTTGGCCTC	AATCACACACAACGCAGACAC
ABCA9	GGCATAAGCCTAAGCCATAC	TAAGCATTCTCCATGACATCCTC
ABCB1	ATTGTTTGCCACCACGATAGC	ATAAAGTCATAGGCATTGGCTTC
ABCB11	GAAACAACGCATTGCTATTGC	TTCCTTTCTGTGTCTAAGGCAG
ABCB4	AAGAAGCAAAGAACTCAATGTC	GGTAACGTCTCGATGAAAGGATG
ABCB5	AAGCCAGGACGGGAAGGAC	TCCATTGTGCAGAACCACTATC
ABCB6	GAGGCTCTGTTGTCCCGAG	ATGGTCTGAGGCTTAGTGTCTTC
ABCC1	TAGAGACTGAGAGTGAGCAACCAG	AATCAACACTGTAAGCAACCAACAC
ABCC10	GCCGGGCCTATACAGAGGTG	AGATGCAAGAGGGCCAGAGC
ABCC11	TTGCTGGATGGAAACCCTG	GATCACTGAATCCCATGTCTTAG
ABCC12	ATGAAGCCACCGCCTCTATG	AGGACGTGATCGCAGTTGAG
ABCC2	GGAGAAACAGTGAACCTGATG	CCAACACCTGCTAAGACTGAG
ABCC3	AAGTGGTGAATGACACGCCTAAG	CAAATAACACTCAGTTGGGAATC

ABCC4	CTATTATGGTTTGAAGTGGAGTCTC	TATATGCAATTTTCAGGGAGGTGAC
ABCC5	GTGGCAAGAAGAGCTGAATG	ATCAGGCACACGATGGACAG
ABCC6	TGTCAACAGCGACTCTCAG	GATTTAAGGGTCTAGCCGGGAG
ABCC8	CTTCGTGAATCTGCTGTCCAAAG	GCCGTTGGTAGTTGGTGAG
ABCD1	AATACCACACACACTTGCTACAG	GCTGCTTCTCCTCCGTCAG
ABCD3	TTACTACCAAAGTGGAAGAATGC	ATCTAGTCATTTACGCCCAG
ABCD4	TACGGCTAGATGCTGTTGC	AGTCCGTCTAACTCCTCACCTC
ABCF1	CCATTATCCAGCCCAAGATTTG	CAAGTCCTCAACCAGACAAGAG
ABCG1	ATCTGCACTGTGACATCGACG	AATAGGCAATGAGGCGGAG
ABCG2	CATGGTGTATAGACGCCCTG	ATGCCATGTTCCCAAATTG
ABCG4	TTGAGGGTGTGATCCTGAC	CAGCACAAGGTAGGCCAGC
ABCG5	CCTGAGGTTGCCGATTTG	AATGGACAGCAGAGCCACTAC
ABCG8	AGCTGGACTCGTACCCTCTC	GTCTTGACTTGGTTTCTGTTTG
ACTB	GCGGGAAATCGTGC GTGAC	AGGAAGGAAGGCTGGAAGAGTG
AHR	AATCACGTTAAACCAAATACACG	AATAAATCCCACAATGTAGCAGTG
ARNT	TCTTGATTGCGGCTTTATC	AACCCTATGATTTCTGATTCCTG
ATP7A	ATGTTGGAATAGATGATACCTCAAG	TCCCACCAGGAGTGAGTGC
ATP7B	TCACCTTGGATGGTTAGTTTC	AGGACACAATTACTGACGGAC
B2M	CAGCGTACTCCAAAGATTCAGG	AATGTCGGATGGATGAAACCC
CYP1A1	GCACATATCCAGGCACCAG	TGTAGAGAAGGGAGACCAATAGAAG
CYP1A2	AAGCCCTTGAGTGAGAAGATG	CTTCATGGTCAGCCCGTAG
CYP2B6	TCTTCACGGTACACCTGGGAC	ATATCCCCGGAAGAATGGGTC
CYP2C19	GGAGCTGTTTTTATTCTGACC	CAGACAGGAATGAAGCACAGC
CYP2C8	CTGGCTGCCGATCTGCTATC	CCTTAATGGAGTTTGGATGC
CYP2C9	TTCTCTTGTGGTCCTTGTGC	GGATTTGCTGATGTCCTTAATAC
CYP2D6	GAACGACACTCATCACC AAC	GCTTCACAAAGTGGCCCTG
CYP2E1	TTCCCAGCTTTCTACACTACTTG	ATTTCCACGAGCAGGCAGTC
CYP3A4	CCTTTCATATTTCTGGGAGACAG	ATTAAGTGTTTCATTGCATCGAG
CYP3A5	AATTAGACACGCAAGGACTTCTTC	CTCATTCTCCACTTAGGGTTCCATC
GAPDH	TCAACGGATTTGGTCGTATTGG	GTTCTCAGCCTTGACGGTG

GSTP1	GCTTTGAGTGAGCCCTCCT	CGCCCTACACCGTGGTCTA
GSTT1	GCCAAGGACTTCCCACCTG	AATGCTTTGTGGACTGCTGAG
HNF1A	AGGCAGGGAGAATGCGACT	CATTGCCCATCGTCAACACCT
HNF4A	AGATCAAGCGGCTGCGTTC	GGCCACGCGAGTCATACTG
NAT1	TTCAACACCAGATCCGAGCTG	AATGGCCTCTAAGCCTAAGTC
NAT2	TCACTGAGGAAGAGGTTGAAG	GTGAGTTGGGTGATACATACACAAG
NFE2	GTCTGAATGCTCCAAGTGAG	GGCAGTAAGTTGTGGGTGGTG
NR1H2	ATCGTGGACTTCGCTAAGC	TAGTGGATGCCTTCAGGAG
NR1H3	ACAGATCCGCCTGAAGAAAC	TTACACTGTTGCTGGGCAG
NR1I2	GGAGGTGAGACCCAAAGAAAG	CATTGAAGTGATAGCCAGTGG
NR1I3	TTCCCTGCCATTGAAGAC	AGAAAGTGGTATTGAGTACGATGTG
NR3C1	AACTGAGGCACTTAGGACATAAC	TGAAGGGAGCGTGGCTTTC
NR5A2	AGGTGTCCAGGAACAAGTCAATG	CGGATTTCCGGTAGTCGAAG
PGR	TGGGAGATGGTAACACCTCTG	GCACACTCTATAAGCTGGAGC
PPARA	GAACGATTTCGACTCAAGCTG	GACATCCCGACAGAAAGGCAC
PPARD	AACGGCAGTGGCTTTGTAC	CTCCACACAGAATGATGGCC
PPARG	ACAGATTGTCACGGAACACG	GGAAGAAGGGAAATGTTGGCAG
RARA	ACTGTCTGCCTCCCTTCTGA	AGTCCACCCAGCATAGGGG
RARB	GTA ACTCTAGTGTCCTTCCTGATTC	TTAACCACTCTACCACAGCTTTC
RXRA	GCCTTCCTGTGACTGACTGTG	TTAACGAACTGAATGGCGATG
SLC10A1	ATTGTGATGACCACCTGCTC	GTGGCCGTTTGGATTTGAG
SLC10A2	TAAAGGGACCTGAGA ACTCCTC	CAAGTCACAAGTTACCGCATC
SLC15A1	GGCCGAGTACATTCTATTTGC	GATCTCCGCTGGGTTGATG
SLC15A2	TGGAATGAAAGCTGTGCTGAT	ATAACAGAGGCTGCTGAAGGC
SLC16A1	ATGGCAGATAGAGGAAGAGTGTTAG	GAGAGAAGAAGTACGCAGAGGTTAC
SLC16A2	GCCTTCTACTTTGCCGGTGTG	GATTGGTTCCTCAGGGTTG
SLC16A3	GAGACAACGTGACTTTAATGGGAG	CATGTGAGCCCAGGGTAGGAC
SLC16A4	TTTGTGCAGGTCCCCTGGTTGCT	TCAGTCCCATCCCAGAACGGGCAA
SLC16A5	GCCCGTGCAGCGGTACAAAGAAA	TGCCAATGTGGCTGCTGCCTGT
SLC16A6	TTTTCAGCTCCCCTCGCCACAGT	GCTGGTGCGAAAGCAAACACAGCG

SLC16A7	TGGCCCTCCTCTTGCAGGTAAATTGGT	TGCCAATGAGCAGCCACACGCT
SLC16A8	AGAAGGAGACTTGGGAGGCAGCGA	GCGGAAGAAGACGCTCACGGCTTT
SLC18A1	GGCATAGTCCCAACAGATCG	CGGGAAAGAACACGTTGAG
SLC18A2	TGAAGAATCTGAAAGTGACTGAG	TATAAGGCTGTTGGCAATCG
SLC19A1	GTGCTGGCCTTGGTATGTG	GCGCTCCTTAGACCCTGAG
SLC19A2	TCGACATACTCATTTGGTTTAAGC	TCCCTTCCCTTCCTTAGC
SLC19A3	TAATCTGAATGTGGAACGCTATG	AATGCTGACTGGCAAGTTGAG
SLC1A2	AACTGGGCTTTATGCAGGATTC	GATGCTCTGTGCTACGTGACTTC
SLC1A3	AGCCCATCATCTCGCCAAG	ACATCTACAAAGTAATGCTTCCCAG
SLC1A4	ACGGTGGTGAATGTGGAAG	CACCTCAGCAAGTTCCTGC
SLC20A1	CTCTGCGTTGTTGGTTTCAC	CCTCATCCCTCTAAGAAGCTC
SLC22A1	TTCACGGACTCTGTGCTCTATC	TCAATGGTGATGAGGGCTATG
SLC22A12	GCCTTTGGCTTCACCTTCTTC	GTCCACGACACCAATGAAC
SLC22A18	GTACAACCACTGCTCCGAAC	ACAAGGGTATTGATAGCAACCTG
SLC22A2	AGCCCATACAACCAACCAAC	ATGCTGAGAATAAAGTGAGCTG
SLC22A3	GCGCAGTGGTGTATCAAGGAC	CAAGGCGCTCAATGGTTAG
SLC22A4	GGTGATGGTGGGCAAGTTTG	CAAGGTAAACGAAGTAGGGAGAC
SLC22A6	ATTGTCCGAACCTCTCTTGC	CGGATCATTGTGGGATACAG
SLC22A7	CCACCTCCAGAGTCCAAGG	CAAAGCCCATGCTGCTCAC
SLC22A8	CAAACAGGTATGGGCGTAAG	ATAGTCTCTGGCAAGGGCTG
SLC22A9	CCTGCCCTGGATCATCTATG	AGAGGCTTGTTCTCTGGTTTC
SLC23A2	CCGGAAATGGAAGAAGGGTG	GTGTAGCCCACAAAGGTTG
SLC25A13	TGCGGGACATTCTTTCTC	GGCTTCCTGGGCTAACCTG
SLC25A6	TTGTAGGAGCCAAGTCGTG	ACCTCTGCGTCCTCTGTTTATTG
SLC26A3	GACCAGCCAATCAATACCACAGAC	CACTGAAGAAACATCAAGAAAGGAC
SLC27A1	CAAGATCCAGAAGACGAGGCTG	GCAGATGCGAGTGTAGACTG
SLC28A1	TGAAGTGACAAGGCAAGCCAG	CTCAGAGAGAGAGGGAAGCAC
SLC28A2	ATGGCACCAACCCTCCTTC	AGGCACAGACGGTATTGTTGTAG
SLC28A3	CAGCACTCCTGTGGACATC	CTGCTCAACAGACTTTGGCAAC
SLC29A1	GTGGCTAGGAGCTGGGTCTG	AAGGCAGTAACGTGGCAAC

SLC29A2	AGCTCTTCCATACCCACTCTCTCAC	GGCTCTACCACGGACCAGTC
SLC2A1	CTACTCCATTA ACTCCACCCACCTC	ACACAGGGCAGCTTGACAG
SLC2A2	GTCTAATCTTCTCAGCGGCAG	GCTCCCATTTTCTTTCCTAGTGG
SLC2A3	CGGCTTCCTCATTACCTTCTTG	GACATTGGTGGTGGTCTCCTTAG
SLC31A1	CAACAGATGCTGAGCTTTCCTC	ATCCACTACCACTGCCTTCTTC
SLC38A2	GAAGAAGGCCGAAATGGGAC	GGTAGGAGTAGTTGAAGTCGCTG
SLC38A5	TTGCGCTTCTGTGTCGTCCTAC	TGCAATACCAGCACAGGTCAG
SLC44A2	CGGTGATCGTTGGCTCCTAC	AGAAGCAGAGGAACAGCGTG
SLC4A11	ATTGTGAACGTGAAGGAGACG	GGAGGTGAGCGCGATGTAG
SLC5A1	AGGAATCTTCAGGAGAGCCTATG	AAGACAGCCACGGTCACCAG
SLC5A4	ACGTGGATGCCTCAAGAAAGC	TGAATAAAGACCACCACAGCCAG
SLC6A3	AACCCAGGTGTTGTCCGTG	TTATTGTGCTTAGGGACCCAC
SLC6A4	AGGTTTAGAATCAAGTCTGTGAAAG	CTAGCGAGATAGCATCCCTG
SLC6A18	TCTGCGATGACATTGCGTG	TCAGTGGCTTCCAGAACAG
SLC7A1	CATCACGTTATGACTCCTAATG	GAAGCACTGGCACAGAAAG
SLC7A5	ACCCTCTGCCGAGTAATGACG	AAGCCAGAACACCCTACCCAAC
SLC7A6	GGTGGGTGCTGTGAAGAGTAAAC	AACAGGGAGCGGTAGTGAAATAG
SLC7A7	TTCTTCCCGATTGTCTTCTGC	GGTCGCTTATGTTCTGGCAC
SLC7A8	GCCAGAAGATGTGTGTGGTCG	GCTGCTGCTCCTCCATGTC
SLC7A9	CCGATTACCATGCACCTTCAG	TTGGCTACAAGAGACGGAG
SLC7A11	CCATTGTCACCATTGGCTATG	GCATTTGAAAGCAGCAGCTC
SLC9A11	AGCATGAGGGTTCGTGATGTTG	CAATAATGCCTCTTGAACAAAG
SLC9A3R1	AGGTGAATGTGTTCCCGTC	GCCTGGTCCCATGATCCTG
SLCO1A2	AGTTCTTGGGCTGTGCGAC	TGAAACTGCTCATCGCTGAC
SLCO1B1	GTA ACTGGTCTCCAGAACAGA	ATGTGAGGTGCCTCCAAGTG
SLCO1B3	GGTGTTCCTGGTCTTTCCTG	TCACACACTAACCATGCCTC
SLCO2A1	TGCCCTGCAACTAACCCCTG	TGGCATTTCATTGTTTCATAAACTC
SLCO2B1	AGGTTCTGTGATCTGCTTCG	AGGGCTGGATCTGCTCTCTTTG
SLCO3A1	CCTGCGTCCTCTACGACAATG	GAGGCAAAGAACTCACTGGTG
SLCO4A1	GACAGTGCCACAGATAGCCAG	CAGGTAAAGTAGAAGGTTGCAGGTC

SULT1A1	GAATTTGAGGCTACCCAGTGC	GGTCCTGGACAGTCACCTCTC
UGT1A1	GAATTTGAGGCTACCCAGTGC	GGTCCTGGACAGTCACCTCTC
UGT2B7	GTCATGCGCCACAAAGGAG	TAAATATCACAGTTGCCACACAG
VDR	AATCCTCTGGCTGGCTAACTG	TTCTCTTTGGAAATCATTTCAGCAG

Supplemental Table S3. Differentially expressed genes in the human eye

Gene Symbol	Log2 Fold Change in Gene Expression	Empirical Bayes Moderated T Statistic	Empirical Bayes P Value	False Discovery Rate-adjusted P Value	Log-Odds of Differential Expression
ABCG2	4.02	5.51	0.0001	0.02	1.36
ABCC4	3.93	5.50	0.0001	0.02	1.35
SLC10A2	3.40	5.19	0.0002	0.02	0.90
SLC7A8	4.56	5.16	0.0002	0.02	0.86
SLC28A3	3.25	5.15	0.0002	0.02	0.84
SLC22A15	-4.54	-4.81	0.0004	0.02	0.32
SLC12A6	5.68	4.80	0.0004	0.02	0.31
SLC7A2	3.97	4.50	0.0007	0.03	-0.15
HNF1A	3.74	4.49	0.0007	0.03	-0.18
NAT2	3.22	4.48	0.0007	0.03	-0.18
SLC11A2	3.84	4.46	0.0007	0.03	-0.21
SLC39A13	3.74	4.36	0.0009	0.03	-0.37
SLC10A7	3.36	4.24	0.0011	0.04	-0.57
CYP2E1	2.79	4.18	0.0012	0.04	-0.68
SLC35F5	4.32	4.13	0.0013	0.04	-0.76
HNF4A	2.73	4.12	0.0013	0.04	-0.76
ABCA4	4.59	3.98	0.0018	0.04	-1.00
SLC19A2	2.72	3.94	0.0019	0.04	-1.07
SLC17A3	2.92	3.90	0.0020	0.04	-1.13
SLC2A14	3.69	3.81	0.0024	0.05	-1.28
ABCA2	2.67	3.72	0.0028	0.06	-1.43
NR1H3	5.04	3.71	0.0029	0.06	-1.45
RXRA	2.92	3.63	0.0033	0.06	-1.59
SLC20A1	3.65	3.54	0.0040	0.07	-1.74
SLC13A4	2.20	3.41	0.0050	0.08	-1.95
SLC16A12	2.38	3.37	0.0054	0.09	-2.02
SLC10A6	2.21	3.29	0.0063	0.10	-2.16
SLC16A9	2.78	3.26	0.0066	0.10	-2.21
SLC27A4	2.52	3.12	0.0087	0.12	-2.45
SLC22A10	2.37	3.09	0.0092	0.12	-2.50
NR0B2	-3.48	-3.09	0.0092	0.12	-2.50
ABCA13	3.26	3.07	0.0094	0.12	-2.53
SLC30A1	1.84	3.00	0.0109	0.14	-2.66
SLC2A6	2.52	2.89	0.0133	0.16	-2.84
SLC25A42	1.92	2.87	0.0137	0.16	-2.87

SLC39A10	2.47	2.77	0.0166	0.19	-3.04
SLC26A5	2.41	2.77	0.0168	0.19	-3.05
SLC39A3	2.75	2.74	0.0176	0.19	-3.09
SLC35A4	1.67	2.72	0.0181	0.20	-3.12
AHR	2.40	2.68	0.0198	0.21	-3.20
SLC38A11	-1.75	-2.65	0.0207	0.21	-3.24
SLC35B3	1.94	2.65	0.0207	0.21	-3.24
ABCC8	2.51	2.64	0.0212	0.21	-3.26
SLC26A7	2.66	2.63	0.0217	0.21	-3.28
SLC27A2	2.69	2.62	0.0220	0.21	-3.29
SLC35D1	1.69	2.60	0.0229	0.21	-3.33
ABCA9	2.67	2.54	0.0256	0.22	-3.43
SLC25A38	2.00	2.53	0.0258	0.22	-3.43
NFE2	1.92	2.52	0.0264	0.22	-3.46
SLC22A16	3.10	2.52	0.0265	0.22	-3.46
SLC26A9	1.80	2.51	0.0271	0.22	-3.48
SLC4A11	1.64	2.49	0.0280	0.22	-3.51
SLC18A1	2.00	2.48	0.0287	0.22	-3.53
ABCD2	2.04	2.46	0.0297	0.22	-3.56
CYP2C19	2.11	2.45	0.0301	0.22	-3.57
SLC11A1	1.87	2.44	0.0306	0.22	-3.59
SLC25A35	-1.82	-2.43	0.0313	0.22	-3.61
SLC2A3	2.34	2.43	0.0315	0.22	-3.61
SLC1A5	2.34	2.41	0.0323	0.22	-3.63
SLC24A2	1.87	2.40	0.0329	0.22	-3.65
ABCA3	2.20	2.40	0.0330	0.22	-3.65
SLC6A19	1.97	2.40	0.0331	0.22	-3.65
ABCF3	1.87	2.40	0.0331	0.22	-3.65
SLC2A5	2.59	2.39	0.0335	0.22	-3.66
SLC25A31	1.76	2.38	0.0344	0.22	-3.69
SLC46A3	2.10	2.37	0.0347	0.22	-3.70
SLC41A1	1.73	2.37	0.0350	0.22	-3.70
SLC12A8	3.31	2.35	0.0362	0.22	-3.73
CYP2C9	2.24	2.32	0.0387	0.23	-3.79
UGT1A1	2.09	2.30	0.0394	0.23	-3.81
SLC7A9	1.80	2.30	0.0400	0.23	-3.82
SLC7A13	2.60	2.30	0.0401	0.23	-3.82
SLC25A39	2.54	2.28	0.0409	0.23	-3.84
SLC7A11	1.75	2.28	0.0413	0.23	-3.85
SLC6A18	1.48	2.27	0.0417	0.23	-3.86
SLC10A1	1.63	2.27	0.0422	0.23	-3.87

SLC29A3	2.19	2.25	0.0437	0.23	-3.90
SLC41A3	-2.63	-2.24	0.0445	0.23	-3.91
SLC22A1	2.00	2.24	0.0447	0.23	-3.92
SLC9A3R1	2.44	2.23	0.0450	0.23	-3.93
SLC16A2	2.65	2.22	0.0458	0.23	-3.94
ABCC10	2.37	2.22	0.0458	0.23	-3.94
SLC25A41	1.55	2.21	0.0471	0.24	-3.96
SLC29A4	1.84	2.19	0.0482	0.24	-3.98
SLC24A4	2.17	2.19	0.0489	0.24	-4.00
SLC30A3	-1.91	-2.17	0.0505	0.24	-4.03
ABCC1	1.91	2.16	0.0509	0.24	-4.03
SLC18A2	3.20	2.16	0.0516	0.24	-4.04
SLC37A3	1.68	2.15	0.0520	0.24	-4.05
ABCD3	1.67	2.15	0.0523	0.24	-4.05
SLC2A12	2.19	2.11	0.0561	0.26	-4.12
SLC6A16	2.69	2.10	0.0573	0.26	-4.14
SLC35B4	-1.33	-2.09	0.0582	0.26	-4.15
SLC19A1	2.19	2.08	0.0593	0.26	-4.16
SLC6A1	1.54	2.07	0.0600	0.26	-4.18
SLCO4A1	2.00	2.07	0.0603	0.26	-4.18
SLC26A3	2.27	2.06	0.0614	0.27	-4.20
SLC16A14	1.57	2.05	0.0620	0.27	-4.20
ABCC5	1.99	2.04	0.0632	0.27	-4.22
SLC16A7	2.23	2.04	0.0638	0.27	-4.23
SLC39A6	1.38	2.03	0.0643	0.27	-4.23
ABCB6	1.71	2.00	0.0680	0.28	-4.28
SLC22A3	1.53	2.00	0.0684	0.28	-4.29
SLC26A4	1.53	1.98	0.0703	0.28	-4.31
SLCO5A1	1.90	1.98	0.0709	0.28	-4.32
SLC31A2	1.67	1.98	0.0712	0.28	-4.32
SLC17A7	1.67	1.97	0.0714	0.28	-4.32
ABCD4	1.61	1.96	0.0728	0.28	-4.34
SLC27A1	3.20	1.95	0.0744	0.29	-4.36
SLC39A4	1.52	1.94	0.0754	0.29	-4.37
SLC6A8	1.89	1.94	0.0756	0.29	-4.37
SLCO1C1	2.39	1.92	0.0785	0.29	-4.40
SLC9A3R2	1.91	1.92	0.0789	0.29	-4.41
SLC28A1	1.45	1.91	0.0802	0.29	-4.42
SLC23A3	1.86	1.91	0.0804	0.29	-4.43
SLC7A5	-2.48	-1.89	0.0822	0.30	-4.44
SLC22A14	-2.50	-1.88	0.0843	0.30	-4.46

ABCB10	-1.19	-1.87	0.0855	0.30	-4.48
ABCB5	2.07	1.85	0.0881	0.31	-4.50
ABCA7	1.69	1.85	0.0890	0.31	-4.51
SLC25A19	-1.22	-1.84	0.0901	0.31	-4.52
SLC39A9	1.49	1.83	0.0917	0.32	-4.54
SLC1A3	1.70	1.83	0.0923	0.32	-4.54
SLC25A5	-1.31	-1.77	0.102	0.34	-4.62
SLC41A2	1.15	1.75	0.105	0.35	-4.65
SLC7A3	1.37	1.75	0.105	0.35	-4.65
SLC16A11	1.32	1.75	0.105	0.35	-4.65
SLC8A3	2.00	1.75	0.105	0.35	-4.65
SLC9A11	2.16	1.74	0.107	0.35	-4.67
GSTP1	-1.86	-1.74	0.108	0.35	-4.67
SLC7A1	1.77	1.71	0.112	0.36	-4.71
SLC39A8	-1.65	-1.71	0.113	0.36	-4.71
PPARG	1.80	1.70	0.114	0.36	-4.72
SLC6A3	1.97	1.67	0.120	0.38	-4.76
SLC9A6	1.48	1.66	0.122	0.38	-4.77
SLC15A4	2.02	1.66	0.122	0.38	-4.77
SLC2A10	1.24	1.65	0.124	0.38	-4.79
SLC24A5	1.60	1.64	0.126	0.38	-4.80
SLC9A9	1.28	1.64	0.126	0.38	-4.80
SLC37A1	-1.91	-1.62	0.130	0.39	-4.83
ABCB4	1.69	1.59	0.136	0.41	-4.86
SLC26A1	1.48	1.59	0.137	0.41	-4.87
SLC39A12	1.08	1.58	0.139	0.41	-4.88
SLCO1B1	1.15	1.57	0.141	0.41	-4.89
SLC6A4	1.15	1.57	0.142	0.41	-4.89
SLCO6A1	1.42	1.57	0.143	0.41	-4.90
NR1I3	1.22	1.56	0.144	0.41	-4.91
SLC22A7	1.11	1.56	0.144	0.41	-4.91
SLC38A9	1.28	1.55	0.146	0.41	-4.92
SLC12A2	1.51	1.53	0.150	0.42	-4.94
SLC22A23	1.89	1.53	0.152	0.42	-4.95
SLC4A3	1.97	1.53	0.152	0.42	-4.95
SLC12A1	-0.91	-1.53	0.152	0.42	-4.95
ABCG1	1.22	1.52	0.154	0.42	-4.96
SLC25A24	1.49	1.50	0.159	0.43	-4.99
SLC16A4	-1.07	-1.50	0.160	0.43	-4.99
SLC22A9	-1.95	-1.49	0.161	0.43	-5.00
SLC45A4	1.36	1.46	0.171	0.45	-5.04

SLC36A3	0.92	1.44	0.175	0.46	-5.06
UGT2B7	1.31	1.44	0.175	0.46	-5.06
SLC1A1	1.47	1.42	0.180	0.46	-5.08
SLC35B1	-0.92	-1.42	0.181	0.46	-5.09
SLC7A10	1.90	1.42	0.181	0.46	-5.09
SLC22A12	-1.76	-1.41	0.183	0.46	-5.10
SLC26A2	1.18	1.41	0.184	0.46	-5.10
SLC26A8	1.12	1.40	0.187	0.46	-5.11
SLC7A14	-1.30	-1.40	0.187	0.46	-5.11
SLC25A17	1.29	1.40	0.187	0.46	-5.12
SLC17A6	-1.37	-1.39	0.188	0.46	-5.12
ABCC12	1.39	1.39	0.189	0.46	-5.12
SLC4A1	-1.79	-1.39	0.189	0.46	-5.12
SLC6A7	1.33	1.39	0.190	0.46	-5.13
SLC13A2	1.17	1.39	0.191	0.46	-5.13
SLC6A14	1.32	1.38	0.192	0.46	-5.14
SLC31A1	-1.12	-1.37	0.196	0.47	-5.15
SLC37A2	1.02	1.34	0.206	0.49	-5.19
SLC36A2	-1.03	-1.33	0.207	0.49	-5.19
SLC22A5	1.24	1.32	0.210	0.49	-5.20
SLC38A7	-2.52	-1.32	0.212	0.50	-5.21
SLC5A10	1.20	1.31	0.214	0.50	-5.22
ABCB9	-0.98	-1.30	0.219	0.51	-5.24
SLC38A8	1.43	1.29	0.219	0.51	-5.24
SLC9A4	2.71	1.29	0.221	0.51	-5.24
SLC25A28	1.09	1.27	0.226	0.52	-5.26
SLC25A44	-1.72	-1.26	0.229	0.52	-5.27
ABCC11	1.21	1.26	0.230	0.52	-5.27
PPARD	1.43	1.26	0.233	0.52	-5.28
SLC39A14	0.98	1.25	0.234	0.52	-5.29
SLC46A1	1.50	1.24	0.238	0.53	-5.30
SLC35F4	1.34	1.24	0.240	0.53	-5.30
SLCO1A2	0.98	1.23	0.242	0.53	-5.31
SLC39A7	-0.93	-1.22	0.244	0.53	-5.32
SLC27A3	1.10	1.22	0.245	0.53	-5.32
SLC1A2	1.32	1.22	0.246	0.53	-5.32
ABCG5	-1.13	-1.21	0.249	0.54	-5.33
NR1I2	0.87	1.20	0.253	0.54	-5.34
SLC44A2	-1.18	-1.19	0.258	0.55	-5.36
SLC36A4	-0.98	-1.18	0.261	0.55	-5.37
SLC36A1	0.77	1.17	0.263	0.55	-5.37

SLC17A4	0.99	1.16	0.267	0.56	-5.38
ABCF2	0.89	1.16	0.268	0.56	-5.39
ABCG8	-1.40	-1.16	0.270	0.56	-5.39
SLC2A4	0.98	1.15	0.270	0.56	-5.39
SLC22A13	0.79	1.15	0.270	0.56	-5.39
SLC35E1	0.71	1.15	0.273	0.56	-5.40
SLC39A11	0.81	1.13	0.278	0.57	-5.41
ABCB8	0.88	1.13	0.279	0.57	-5.41
SLC45A2	-1.68	-1.11	0.287	0.58	-5.43
SLC25A37	0.86	1.10	0.294	0.59	-5.45
SLC27A5	0.74	1.09	0.298	0.60	-5.46
ABCF1	0.79	1.08	0.301	0.60	-5.47
SLC35A3	1.07	1.07	0.303	0.60	-5.47
SLC25A16	0.82	1.07	0.304	0.60	-5.48
SLC6A9	1.21	1.07	0.306	0.60	-5.48
SLC4A10	-1.02	-1.06	0.308	0.60	-5.48
SLC22A18	0.94	1.06	0.309	0.60	-5.49
SLC6A13	1.42	1.05	0.314	0.61	-5.50
SLCO3A1	1.13	1.05	0.315	0.61	-5.50
SLC25A1	1.29	1.04	0.317	0.61	-5.51
SLC45A3	0.98	1.04	0.319	0.61	-5.51
ATP7B	1.01	1.03	0.323	0.61	-5.52
SLC7A7	0.80	1.03	0.324	0.61	-5.52
SLC22A6	-1.01	-1.02	0.326	0.61	-5.52
SLC8A1	1.02	1.00	0.339	0.63	-5.55
SLC47A2	0.89	0.99	0.340	0.63	-5.55
ABCB1	-0.88	-0.99	0.342	0.63	-5.56
SLC4A5	0.73	0.98	0.344	0.64	-5.56
SLC23A2	-1.33	-0.98	0.347	0.64	-5.57
SLC35B2	-0.65	-0.98	0.347	0.64	-5.57
SLC44A5	0.67	0.98	0.348	0.64	-5.57
SLC25A32	-0.72	-0.96	0.355	0.64	-5.58
SLC15A3	0.89	0.96	0.355	0.64	-5.58
SLC5A7	0.91	0.95	0.362	0.65	-5.59
ABCE1	0.68	0.94	0.365	0.65	-5.60
SLC25A22	0.82	0.93	0.370	0.66	-5.61
SLC4A9	0.92	0.93	0.371	0.66	-5.61
SLC5A3	1.00	0.91	0.380	0.67	-5.63
NR3C1	-1.18	-0.90	0.388	0.68	-5.64
SLC9A1	0.76	0.89	0.389	0.68	-5.64
ABCC3	-0.80	-0.89	0.393	0.68	-5.65

SLC26A10	0.63	0.88	0.394	0.68	-5.65
SLC6A2	0.80	0.88	0.396	0.68	-5.65
SLC5A2	1.11	0.88	0.397	0.68	-5.66
SLC24A6	-1.33	-0.88	0.398	0.68	-5.66
SLCO1B3	0.74	0.87	0.399	0.68	-5.66
SLC25A14	-0.80	-0.87	0.401	0.68	-5.66
SLC16A1	-0.89	-0.87	0.403	0.68	-5.66
SLC35E2	-0.65	-0.86	0.404	0.68	-5.67
SLC35C2	0.74	0.86	0.408	0.69	-5.67
SLC20A2	0.64	0.85	0.412	0.69	-5.68
SLC5A11	-0.78	-0.85	0.412	0.69	-5.68
SLC6A17	-0.63	-0.85	0.413	0.69	-5.68
SLC42A3	0.98	0.85	0.414	0.69	-5.68
SLCO2B1	1.11	0.84	0.418	0.69	-5.69
SLC1A4	-1.07	-0.84	0.419	0.69	-5.69
SLC5A1	-0.98	-0.83	0.423	0.69	-5.70
SLC2A1	1.03	0.82	0.428	0.70	-5.70
GSTT1	1.48	0.82	0.430	0.70	-5.71
CYP3A5	-0.73	-0.81	0.433	0.70	-5.71
SLC38A3	0.64	0.78	0.448	0.72	-5.73
SLC25A3	0.62	0.77	0.455	0.73	-5.74
SLC15A1	1.35	0.77	0.457	0.73	-5.74
SLC29A2	-1.01	-0.76	0.459	0.73	-5.75
SLC6A15	-0.67	-0.76	0.459	0.73	-5.75
SLC6A20	-0.79	-0.76	0.459	0.73	-5.75
SLC17A1	-0.75	-0.76	0.461	0.73	-5.75
SLC38A10	0.79	0.75	0.467	0.73	-5.76
ABCG4	0.87	0.75	0.469	0.73	-5.76
SLC43A2	1.04	0.74	0.470	0.73	-5.76
ABCB7	-0.46	-0.73	0.481	0.75	-5.77
SLC35D2	0.84	0.72	0.482	0.75	-5.77
SLC25A26	-0.70	-0.72	0.482	0.75	-5.77
SLC4A7	0.67	0.71	0.490	0.75	-5.78
SLC38A5	0.53	0.71	0.492	0.75	-5.79
SLC45A1	-0.69	-0.70	0.495	0.76	-5.79
SLC17A5	-1.10	-0.70	0.497	0.76	-5.79
SLC2A8	-1.11	-0.69	0.501	0.76	-5.80
SLC46A2	0.51	0.68	0.508	0.77	-5.80
SLC9A2	0.67	0.68	0.508	0.77	-5.80
SLC12A3	-0.42	-0.68	0.510	0.77	-5.81
NAT1	0.57	0.67	0.513	0.77	-5.81

SLC44A4	-0.48	-0.67	0.514	0.77	-5.81
SLC12A5	0.67	0.67	0.517	0.77	-5.81
NR1H2	-0.98	-0.66	0.524	0.77	-5.82
SLC5A8	0.68	0.65	0.526	0.77	-5.82
SLC25A6	0.47	0.65	0.529	0.77	-5.83
SLC25A18	-0.78	-0.65	0.529	0.77	-5.83
SLC35A2	-0.68	-0.65	0.529	0.77	-5.83
ABCC6	0.60	0.65	0.530	0.77	-5.83
SLC4A4	0.66	0.65	0.531	0.77	-5.83
RARA	-0.53	-0.64	0.534	0.77	-5.83
SLC19A3	-0.58	-0.63	0.538	0.77	-5.83
SLC40A1	0.49	0.63	0.541	0.77	-5.84
SLC22A25	0.74	0.63	0.543	0.77	-5.84
SLC16A8	0.52	0.62	0.544	0.77	-5.84
SLC22A4	0.47	0.62	0.544	0.77	-5.84
SLC10A4	0.68	0.62	0.547	0.77	-5.84
SLC30A8	0.49	0.62	0.548	0.77	-5.84
SLC38A1	-0.48	-0.62	0.549	0.77	-5.84
SLC4A8	-0.66	-0.61	0.550	0.77	-5.85
SLC30A7	0.61	0.61	0.552	0.77	-5.85
SLC13A3	0.72	0.61	0.552	0.77	-5.85
ABCC9	-0.67	-0.60	0.556	0.77	-5.85
SLC25A9	-0.50	-0.58	0.571	0.79	-5.87
SLC48A1	0.42	0.58	0.574	0.79	-5.87
SLC38A4	0.66	0.57	0.582	0.80	-5.87
ABCA6	-0.66	-0.56	0.583	0.80	-5.88
SLC12A9	0.48	0.55	0.591	0.81	-5.88
SLC22A17	-0.39	-0.54	0.597	0.81	-5.89
SLC3A2	0.52	0.53	0.606	0.82	-5.89
SLC25A20	-0.53	-0.52	0.610	0.82	-5.90
SLC47A1	-0.45	-0.52	0.611	0.82	-5.90
SLC10A5	0.40	0.51	0.620	0.83	-5.91
SLC9A10	-0.50	-0.51	0.622	0.83	-5.91
SLC25A45	-0.43	-0.50	0.623	0.83	-5.91
SLC27A6	-0.39	-0.49	0.630	0.84	-5.91
SLC25A2	0.32	0.49	0.634	0.84	-5.92
SLC25A23	-0.35	-0.48	0.637	0.84	-5.92
SLC5A12	0.76	0.48	0.638	0.84	-5.92
SLC25A25	0.36	0.48	0.643	0.84	-5.92
SLC35A5	0.30	0.47	0.643	0.84	-5.92
SLC25A10	0.46	0.47	0.649	0.84	-5.93

SLC12A4	-0.77	-0.46	0.655	0.84	-5.93
CYP1A1	0.79	0.46	0.656	0.84	-5.93
SLC35C1	-0.29	-0.46	0.657	0.84	-5.93
CYP2B6	0.68	0.46	0.657	0.84	-5.93
SLC34A2	-0.31	-0.45	0.659	0.84	-5.93
ABCA1	-0.43	-0.45	0.660	0.84	-5.93
ABCC2	0.59	0.45	0.662	0.85	-5.93
SLC9A8	-0.42	-0.44	0.666	0.85	-5.94
ABCB11	0.36	0.43	0.672	0.85	-5.94
SLC25A4	0.38	0.43	0.674	0.85	-5.94
SLC22A2	-0.37	-0.43	0.675	0.85	-5.94
SLC17A2	0.40	0.42	0.679	0.85	-5.94
ABCA5	-0.42	-0.42	0.681	0.85	-5.95
NR5A2	-0.52	-0.41	0.690	0.86	-5.95
ABCA12	0.28	0.41	0.691	0.86	-5.95
SLC25A46	-0.35	-0.40	0.695	0.86	-5.95
SLC16A5	-0.24	-0.40	0.699	0.87	-5.96
SLC2A9	-0.54	-0.39	0.704	0.87	-5.96
CYP3A4	0.31	0.38	0.710	0.87	-5.96
SLC23A1	-0.44	-0.38	0.711	0.87	-5.96
SLC25A11	0.27	0.38	0.714	0.87	-5.96
SLC30A4	-0.38	-0.37	0.716	0.87	-5.97
SLC35F2	-0.24	-0.36	0.721	0.87	-5.97
SLC16A13	-0.32	-0.36	0.724	0.87	-5.97
SLC30A6	0.39	0.36	0.725	0.87	-5.97
SLCO2A1	0.55	0.36	0.725	0.87	-5.97
SLC14A2	0.42	0.36	0.727	0.87	-5.97
SLC4A2	-0.50	-0.35	0.730	0.88	-5.97
SLC25A29	-0.30	-0.35	0.734	0.88	-5.97
SLC30A2	0.29	0.34	0.739	0.88	-5.98
SLC5A9	0.30	0.34	0.742	0.88	-5.98
SLC5A6	-0.21	-0.33	0.745	0.88	-5.98
SLC22A11	-0.25	-0.33	0.748	0.88	-5.98
SLC29A1	0.37	0.33	0.750	0.89	-5.98
SLC12A7	0.30	0.32	0.752	0.89	-5.98
SLC7A6	-0.23	-0.31	0.758	0.89	-5.99
ABCD1	0.21	0.31	0.765	0.90	-5.99
SLC43A1	-0.25	-0.30	0.768	0.90	-5.99
SLC5A4	0.63	0.30	0.772	0.90	-5.99
SLC43A3	0.44	0.28	0.786	0.91	-6.00
SLC26A6	-0.26	-0.28	0.787	0.91	-6.00

SLC25A12	-0.21	-0.28	0.787	0.91	-6.00
SLC24A1	-0.26	-0.27	0.790	0.91	-6.00
SULT1A1	-0.43	-0.27	0.795	0.91	-6.00
SLC44A1	0.30	0.26	0.796	0.91	-6.00
SLCO4C1	-0.29	-0.26	0.797	0.91	-6.00
SLC30A9	0.23	0.26	0.798	0.91	-6.00
SLC22A2splice	-0.41	-0.25	0.810	0.91	-6.01
CYP2C8	0.30	0.24	0.813	0.91	-6.01
SLC14A1	-0.33	-0.24	0.814	0.91	-6.01
SLC25A27	0.21	0.24	0.815	0.91	-6.01
SLC25A36	0.19	0.24	0.816	0.91	-6.01
SLC9A7	-0.35	-0.23	0.819	0.91	-6.01
ATP1A1	0.32	0.23	0.820	0.91	-6.01
ARNT	0.32	0.23	0.821	0.91	-6.01
SLC26A11	0.32	0.22	0.827	0.92	-6.01
SLC16A10	0.17	0.22	0.833	0.92	-6.01
SLC22A8	-0.19	-0.21	0.837	0.92	-6.01
SLC16A6	0.21	0.21	0.838	0.92	-6.01
SLC17A8	-0.17	-0.21	0.841	0.92	-6.01
SLC7A4	0.19	0.20	0.843	0.92	-6.02
SLC38A2	-0.17	-0.20	0.845	0.92	-6.02
SLC2A2	0.18	0.19	0.856	0.93	-6.02
SLC25A13	0.18	0.18	0.857	0.93	-6.02
SLC34A3	0.13	0.18	0.863	0.94	-6.02
SLC35A1	-0.10	-0.17	0.869	0.94	-6.02
SLC38A6	-0.29	-0.16	0.879	0.95	-6.02
SLC25A15	-0.17	-0.13	0.896	0.96	-6.03
SLC9A5	0.15	0.13	0.897	0.96	-6.03
SLC44A3	0.13	0.13	0.899	0.96	-6.03
SLC10A3	0.10	0.12	0.906	0.96	-6.03
SLC39A1	0.10	0.12	0.907	0.96	-6.03
CYP2D6	-0.08	-0.12	0.908	0.96	-6.03
SLC18A3	0.11	0.12	0.910	0.96	-6.03
SLC34A1	0.09	0.11	0.911	0.96	-6.03
CYP1A2	-0.13	-0.11	0.914	0.96	-6.03
SLC35F3	0.08	0.11	0.917	0.96	-6.03
ATP7A	0.14	0.10	0.920	0.96	-6.03
SLC28A2	-0.13	-0.10	0.921	0.96	-6.03
SLC37A4	-0.11	-0.10	0.922	0.96	-6.03
ABCC7	-0.08	-0.10	0.925	0.96	-6.03
SLC6A11	-0.10	-0.09	0.932	0.97	-6.03

PPARA	0.10	0.08	0.936	0.97	-6.03
SLC33A1	0.05	0.07	0.942	0.97	-6.03
NR1H4	-0.08	-0.07	0.949	0.98	-6.03
SLC3A1	0.04	0.06	0.953	0.98	-6.03
SLC24A3	-0.07	-0.06	0.953	0.98	-6.03
ABCA10	0.04	0.04	0.967	0.99	-6.04
SLC9A3	0.04	0.04	0.969	0.99	-6.04
SLC39A5	0.05	0.04	0.969	0.99	-6.04
SLC35F1	0.03	0.03	0.976	0.99	-6.04
SLC25A30	-0.01	-0.02	0.983	1.00	-6.04
RARB	0.02	0.02	0.984	1.00	-6.04
SLC42A2	-0.02	-0.02	0.986	1.00	-6.04
SLC25A21	0.01	0.01	0.989	1.00	-6.04
SLC25A34	0.01	0.01	0.993	1.00	-6.04
PGR	0.01	0.01	0.995	1.00	-6.04
SLC6A12	0.00	0.00	0.999	1.00	-6.04

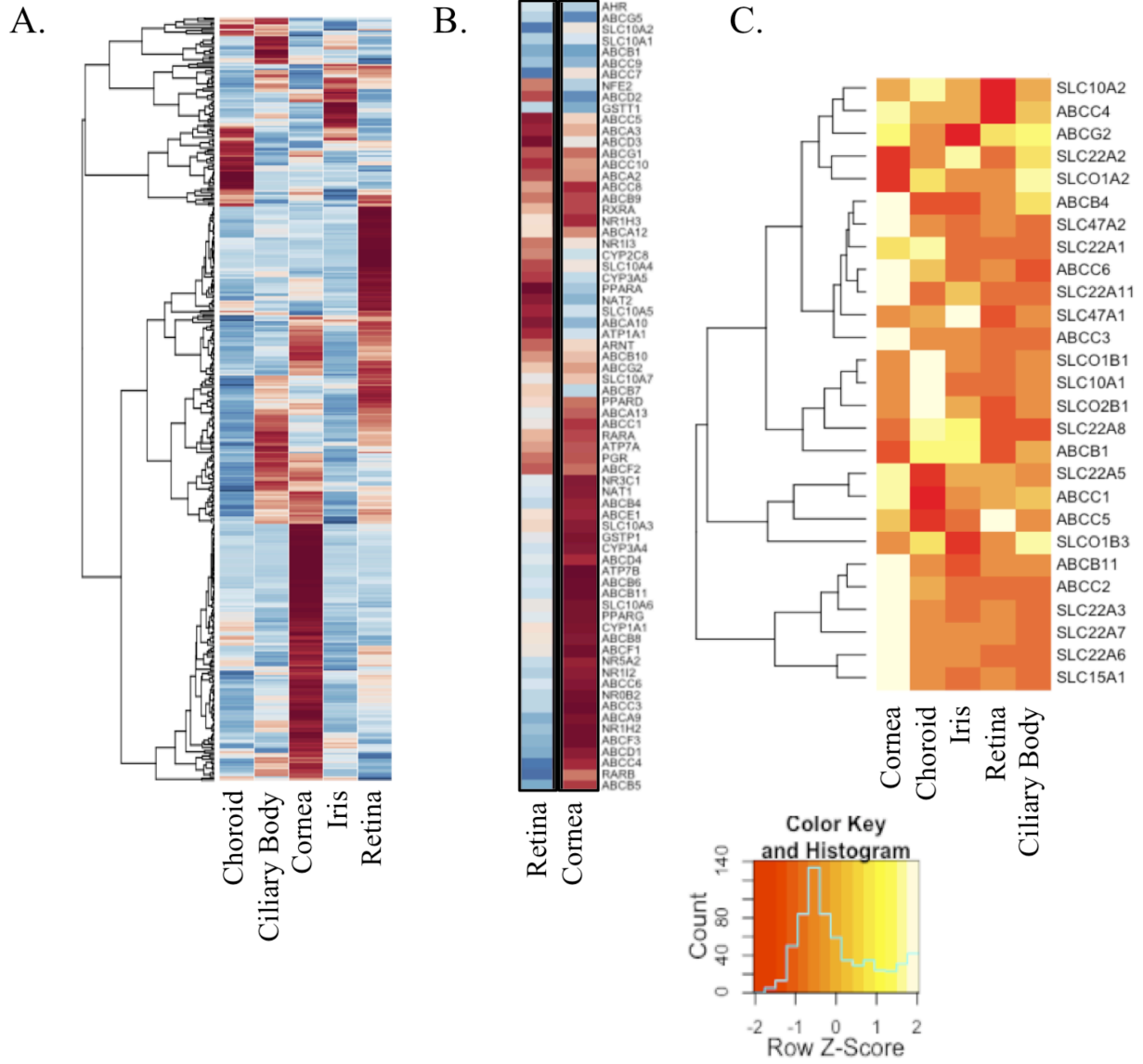
Supplemental Table S4. Correlation of Selected Transporters With Ocular Disease States

Organism/ Cell Line	Condition/Phenotype	Effect on Expression* or Relationship to Disease				Comment	References
		BCRP/ Bcrp	MRP4/ Mrp4	OCT3/ Oct3	OAT2/ Oat2		
Mouse	Oxygen-induced retinopathy	R	R				[29]
Human	Retinoblastoma	ND	ND				[101]
HRECs	Retinal angiogenesis		R				[102]
Human	Age-related cortical cataract				A	in LD with candidate disease locus	[103]
Human	Retinal cone dystrophy			A		in LD with candidate disease locus	[103]

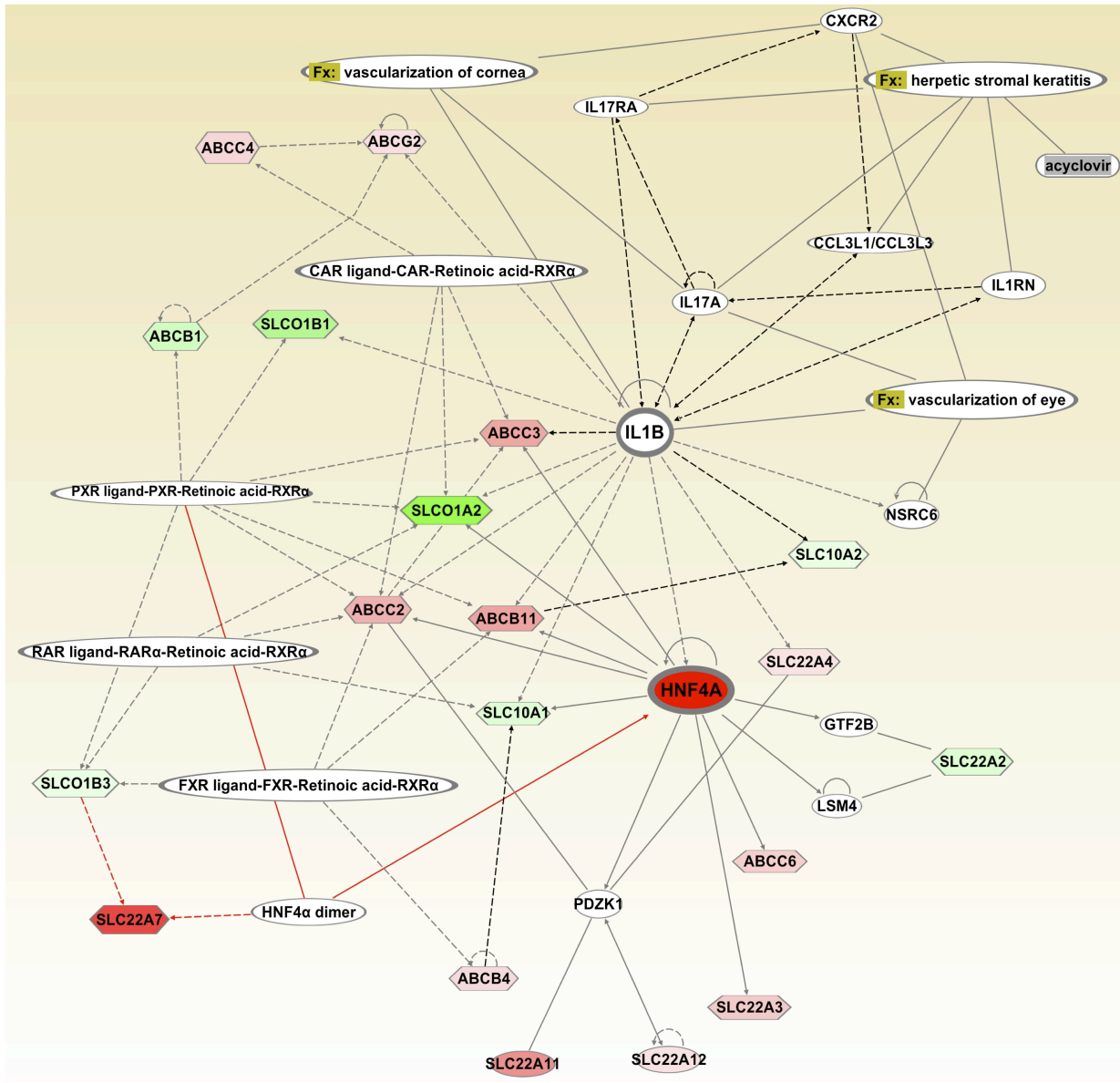
*as compared to reference/normal tissue

R=reduced; A=associated; ND=not detected

Supplemental Figure S1



Supplemental Figure S2



Supplemental Figure S3

