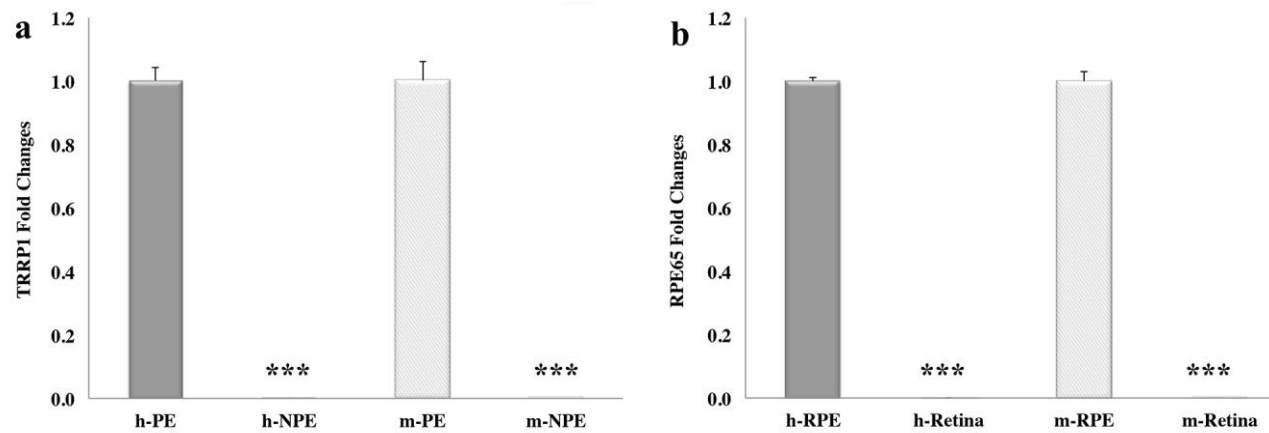
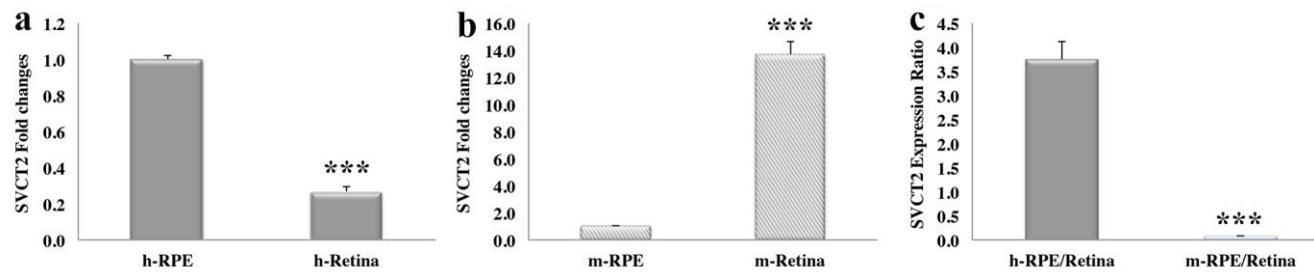


Supplemental Figure 1. SVCT2 immunofluorescence staining in human and mouse lens epithelial layer (LECs). SVCT2 was detected in both human LECs (red, arrow, a-c) and mouse LECs (red, arrow, d-f). Scale bar: 100µm.



Supplemental Figure 2. Tyrosine-related protein 1 (TYRP1, a specific marker for melanin) expression in human (dark) and mouse (light) PE and NPE of ciliary process (a). Retinal pigment epithelium-specific 65 kDa protein (RPE65, a specific marker for RPE) expression from human (dark) and mouse (light) RPE and neural retinal tissue (b).



Supplemental Figure 3. Quantitation of SVCT2 mRNA expression in human and mouse retinal tissues. 3a. SVCT2 expression fold change in human RPE and retina; 3b. SVCT2 expression fold change in mouse RPE and retina; 3c. RPE/retina SVCT2 expression ratio in human and mouse. ***: $p < 0.001$

Gene	Sequences	
	Forward	Reverse
hSVCT1	GGGCCCTGCTCAACTACATT	CCAGCAGCTTGGAAGACAGA
hSVCT2	ACCCGAGTAGTGCAAGAACG	AGACCCCAACGCTAATGTG
hGLUT1	CTGGCATCAACGCTGTCTTC	GTTGACGATACCGGAGCCAA
hRPE65	CTCTGGATCCTGAACTGGAAGA	TGTTACATGAGCTGTGAGCG
hTYRP1	CCCCAGTCACCAACACAGAAA	CCAGTAACAAAGCGCCAACT
hGAPDH	CAGCCGAGCCACATCGCTCAGACACCAT	CTTTACCAGAGTTAAAAGCAGCCCTGGTGACCA
mSVCT1	GTCTCTCCCTTCACATAGGGGAAATA	AATGTTGAAGGTCAAGCCCAG
mSVCT2	CCATCGGTGACTACTACGCC	GAGCCATTCCCGGTACCAAA
mGLUT1	CAAGAGCAGAGGCTTGCTTG	ACGGACGCGCTGTAAGTATG
mRPE65	GTTCCTGCAGTGATCGTT	AGTTGGCTCCCCAAAGACTC
mTYRP1	TTCATCTGAGCACCCCTGTC	AGGGGAGGACGTTGTAAGA
mGAPDH	TGCAGTGCCAGCCTCGT	CCAATACGGCCAAATCCG

Supplemental Table 1. Primer sequences used for qPCR. h. human; m. mouse