#### **Title page**

# Role of KCNB1 in the prognosis of gliomas and autophagy modulation

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Running Title: Role of KCNB1 in the prognosis of gliomas

### **Competing interests**

The authors declare no conflict of interest.

**Total numbers of Figures and Tables:** Five figures, one table, two supplementary figures and one supplementary table.

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## Table S1. Ion channel genes involved in this study

Gene symbolGene titleANO1anoctamin 1, Calcium activated chloride channelANO2anoctamin 2, Calcium activated chloride channelCACMA1Acalcium channel, voltage-dependent, P/Q type, alpha 1A subunitCACMA1Bcalcium channel, voltage-dependent, I, type, alpha 1A subunitCACMA1Ccalcium channel, voltage-dependent, I, type, alpha 1D subunitCACMA1Ecalcium channel, voltage-dependent, I, type, alpha 1E subunitCACMA1Ecalcium channel, voltage-dependent, I, type, alpha 1F subunitCACMA1Fcalcium channel, voltage-dependent, T, type, alpha 1S subunitCACMA1Fcalcium channel, voltage-dependent, T, type, alpha 1S subunitCACMA1Gcalcium channel, voltage-dependent, T, type, alpha 1S subunitCACMA1Gcalcium channel, voltage-dependent, alpha 2/deta subunit 1CACMA2Dcalcium channel, voltage-dependent, alpha 2/deta subunit 3CACMA2Dcalcium channel, voltage-dependent, alpha 2/deta subunit 1CACMA2D2calcium channel, voltage-dependent, alpha 2/deta subunit 3CACMA2D3calcium channel, voltage-dependent, alpha 2/deta subunit 1CACMA2D4calcium channel, voltage-dependent, pata 3 subunit 1CACMA2D3calcium channel, voltage-dependent, gamma subunit 1CACMA2D4calcium channel, voltage-dependent, gamma subunit 1CACMA2D5calcium channel, voltage-dependent, gamma subunit 1CACMA2D4calcium channel, voltage-dependent, gamma subunit 3CACMA2D5calcium channel, voltage-dependent, gamma subunit 3CACMA2D5calcium channel, voltage-dependent, gamma subunit 4			
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CACNB3calcium channel, voltage-dependent, beta 3 subunitCACNB4calcium channel, voltage-dependent, gamma subunit 1CACNG1calcium channel, voltage-dependent, gamma subunit 1CACNG2calcium channel, voltage-dependent, gamma subunit 2CACNG3calcium channel, voltage-dependent, gamma subunit 3CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 7CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 4CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNB1	calcium channel, voltage-dependent, beta 1 subunit
CACNB4calcium channel, voltage-dependent, beta 4 subunitCACNG1calcium channel, voltage-dependent, gamma subunit 1CACNG2calcium channel, voltage-dependent, gamma subunit 2CACNG3calcium channel, voltage-dependent, gamma subunit 3CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 4CATSPER4cation channel auxiliary subunit betaCATSPER5catsper channel auxiliary subunit dettaCATSPER6catsper channel auxiliary subunit dettaCATSPER7catsper channel auxiliary subunit dettaCHRNA10cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNB2	calcium channel, voltage-dependent, beta 2 subunit
CACNG1calcium channel, voltage-dependent, gamma subunit 1CACNG2calcium channel, voltage-dependent, gamma subunit 2CACNG3calcium channel, voltage-dependent, gamma subunit 3CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 4CACNG6calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit deltaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNB3	calcium channel, voltage-dependent, beta 3 subunit
CACNG2calcium channel, voltage-dependent, gamma subunit 2CACNG3calcium channel, voltage-dependent, gamma subunit 3CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit deltaCATSPER6catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNB4	calcium channel, voltage-dependent, beta 4 subunit
CACNG3calcium channel, voltage-dependent, gamma subunit 3CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER6catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG1	calcium channel, voltage-dependent, gamma subunit 1
CACNG4calcium channel, voltage-dependent, gamma subunit 4CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG2	calcium channel, voltage-dependent, gamma subunit 2
CACNG5calcium channel, voltage-dependent, gamma subunit 5CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG3	calcium channel, voltage-dependent, gamma subunit 3
CACNG6calcium channel, voltage-dependent, gamma subunit 6CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG4	calcium channel, voltage-dependent, gamma subunit 4
CACNG7calcium channel, voltage-dependent, gamma subunit 7CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5cation channel, sperm associated 4CATSPER6catsper channel auxiliary subunit betaCATSPER7catsper channel auxiliary subunit deltaCATSPER6catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG5	calcium channel, voltage-dependent, gamma subunit 5
CACNG8calcium channel, voltage-dependent, gamma subunit 8CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPER5catsper channel auxiliary subunit betaCATSPER6catsper channel auxiliary subunit deltaCATSPER7catsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG6	calcium channel, voltage-dependent, gamma subunit 6
CATSPER1cation channel, sperm associated 1CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPERBcatsper channel auxiliary subunit betaCATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)		CACNG7	calcium channel, voltage-dependent, gamma subunit 7
CATSPER2cation channel, sperm associated 2CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPERBcatsper channel auxiliary subunit betaCATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CACNG8	calcium channel, voltage-dependent, gamma subunit 8
CATSPER3cation channel, sperm associated 3CATSPER4cation channel, sperm associated 4CATSPERBcatsper channel auxiliary subunit betaCATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPER1	cation channel, sperm associated 1
CATSPER4cation channel, sperm associated 4CATSPERBcatsper channel auxiliary subunit betaCATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA2cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPER2	cation channel, sperm associated 2
CATSPERBcatsper channel auxiliary subunit betaCATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPER3	cation channel, sperm associated 3
CATSPERDcatsper channel auxiliary subunit deltaCATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPER4	cation channel, sperm associated 4
CATSPERGcatsper channel auxiliary subunit gammaCHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPERB	catsper channel auxiliary subunit beta
CHRNA1cholinergic receptor, nicotinic, alpha 1 (muscle)CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPERD	catsper channel auxiliary subunit delta
CHRNA10cholinergic receptor, nicotinic, alpha 10 (neuronal)CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CATSPERG	catsper channel auxiliary subunit gamma
CHRNA2cholinergic receptor, nicotinic, alpha 2 (neuronal)CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CHRNA1	cholinergic receptor, nicotinic, alpha 1 (muscle)
CHRNA3cholinergic receptor, nicotinic, alpha 3 (neuronal)CHRNA4cholinergic receptor, nicotinic, alpha 4 (neuronal)		CHRNA10	cholinergic receptor, nicotinic, alpha 10 (neuronal)
CHRNA4 cholinergic receptor, nicotinic, alpha 4 (neuronal)		CHRNA2	cholinergic receptor, nicotinic, alpha 2 (neuronal)
		CHRNA3	cholinergic receptor, nicotinic, alpha 3 (neuronal)
CHRNA5 cholinergic receptor, nicotinic, alpha 5 (neuronal)		CHRNA4	cholinergic receptor, nicotinic, alpha 4 (neuronal)
	-	CHRNA5	cholinergic receptor, nicotinic, alpha 5 (neuronal)

#### Channel type

Calcium activated chloride channel Calcium activated chloride channel Voltage-gated calcium channels CatSper and Two-Pore channels Nicotinic acetylcholine receptors Nicotinic acetylcholine receptors

CHRNA6cholinergic receptor, nicotinic, alpha 6 (neuronal)CHRNA7cholinergic receptor, nicotinic, alpha 9 (neuronal)CHRNA9cholinergic receptor, nicotinic, beta 1 (muscle)CHRNB1cholinergic receptor, nicotinic, beta 1 (muscle)CHRNB2cholinergic receptor, nicotinic, beta 3 (neuronal)CHRNB3cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNB4cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNB4cholinergic receptor, nicotinic, gamna (muscle)CHRNCcholinergic receptor, nicotinic, gamna (muscle)CHRNGcholinergic receptor, nicotinic, gamna (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 3CLCC1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 1CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride intracellular channel 1CLCN2chloride intracellular channel 1CLCA3chloride intracellular channel 1CLCA4chloride intracellular channel 4CLCN3chloride intracellular channel 3CLCN4chloride intracellular channel 4CLCN5chloride intracellular channel 4CLCA3cyclic nucleotide gated channel alpha 3CLCN4chloride intracellular channel 3CLCA4chloride intracellular channel 4CLC2cyclic nucleotide g		
CHRNAPcholinergic receptor, nicotinic, alpha 9 (neuronal)CHRNB1cholinergic receptor, nicotinic, beta 1 (muscle)CHRNB2cholinergic receptor, nicotinic, beta 2 (neuronal)CHRNB3cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNB4cholinergic receptor, nicotinic, delta (muscle)CHRNBcholinergic receptor, nicotinic, gamma (muscle)CHRNBcholinergic receptor, nicotinic, gamma (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 3CLCC1chloride channel accessory 3CLCC1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 5CLCN7chloride channel, voltage-sensitive 7CLCN6chloride intracellular channel 1CLC2chloride intracellular channel 2CLC3chloride intracellular channel 3CLC4chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel alpha 1CLC5chloride intracellular channel alpha 1CLC6cyclic nucleotide gated channel alpha 3CLC6cyclic nucleotide gated channel alpha 3CLC6cyclic nucleotide gated channel alpha 3CLC6cyclic nucleotide gated channel alpha 3 <td>CHRNA6</td> <td>cholinergic receptor, nicotinic, alpha 6 (neuronal)</td>	CHRNA6	cholinergic receptor, nicotinic, alpha 6 (neuronal)
CHRNB1cholinergic receptor, nicotinic, beta 1 (muscle)CHRNB2cholinergic receptor, nicotinic, beta 2 (neuronal)CHRNB3cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNB4cholinergic receptor, nicotinic, delta (muscle)CHRNDcholinergic receptor, nicotinic, gamma (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLA1cholinergic receptor, nicotinic, gamma (muscle)CLCA1cholinergic receptor, nicotinic, gamma (muscle)CLCA2cholride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel voltage-sensitive 1CLCN1chloride channel, voltage-sensitive 2CLCN2chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCN8chloride channel, voltage-sensitive KbCLCN1chloride channel, voltage-sensitive KbCLC1chloride intracellular channel 1CLC2chloride intracellular channel 3CLCA3chloride intracellular channel 4CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLCA3cyclic nucleotide gated channel alpha 1CLC3cyclic nucleotide gated channel alpha 3CLCA4cyclic nucleotide gated channel alpha 3CLC6chloride intracellular channel 3 <td>CHRNA7</td> <td>cholinergic receptor, nicotinic, alpha 7 (neuronal)</td>	CHRNA7	cholinergic receptor, nicotinic, alpha 7 (neuronal)
CHRNB2cholinergic receptor, nicotinic, beta 2 (neuronal)CHRNB3cholinergic receptor, nicotinic, beta 3 (neuronal)CHRNB4cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNDcholinergic receptor, nicotinic, gensilon (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLRA1cholride channel accessory 1CLCA1chloride channel accessory 3CLCA2chloride channel accessory 3CLCA3chloride channel accessory 3CLCA1chloride channel, voltage-sensitive 1CLCA2chloride channel, voltage-sensitive 1CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 3CLCN5chloride channel, voltage-sensitive 4CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive KaCLC1chloride intracellular channel 1CLC2chloride intracellular channel 1CLC2chloride intracellular channel 4CLC3chloride intracellular channel 3CLCA1cyclic nucleotide gated channel alpha 1CNGA1cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alpha 3CNGA2 <td< td=""><td>CHRNA9</td><td>cholinergic receptor, nicotinic, alpha 9 (neuronal)</td></td<>	CHRNA9	cholinergic receptor, nicotinic, alpha 9 (neuronal)
CHRNB3cholinergic receptor, nicotinic, beta 3 (neuronal)CHRNB4cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNDcholinergic receptor, nicotinic, delta (muscle)CHRNEcholinergic receptor, nicotinic, gamma (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel CLIC-like 1CLCN2chloride channel, voltage-sensitive 1CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 3CLCN5chloride channel, voltage-sensitive 4CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive KaCLCN1chloride channel, voltage-sensitive KaCLC2chloride intracellular channel 1CLC2chloride intracellular channel 3CLC2chloride intracellular channel 4CLC3chloride intracellular channel 3CLC6chloride intracellular channel alpha 1CNGA1cyclic nucleotide gated channel alpha 3CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 3CNGA5cyclic nucleotide gated channel alpha 3CNGA4cycli	CHRNB1	cholinergic receptor, nicotinic, beta 1 (muscle)
CHRNB4cholinergic receptor, nicotinic, beta 4 (neuronal)CHRNDcholinergic receptor, nicotinic, delta (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 3CLCA1chloride channel accessory 3CLCA2chloride channel accessory 3CLCA1chloride channel, voltage-sensitive 1CLCA2chloride channel, voltage-sensitive 2CLCN1chloride channel, voltage-sensitive 3CLCN2chloride channel, voltage-sensitive 3CLCN3chloride channel, voltage-sensitive 4CLCN4chloride channel, voltage-sensitive 5CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride intracellular channel 1CLC2chloride intracellular channel 1CLC2chloride intracellular channel 1CLC3chloride intracellular channel 3CLC4chloride intracellular channel 4CLC5chloride intracellular channel 4CLC5chloride intracellular channel 1CLC6chloride intracellular channel 3CLC6chloride intracellular channel 1CLC6chloride intracellular channel 3CLC6chloride intracellular channel 6CNC6A1cyclic nucle	CHRNB2	cholinergic receptor, nicotinic, beta 2 (neuronal)
CHRNDcholinergic receptor, nicotinic, delta (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel accessory 3CLCC1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 3CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive KaCLCN2chloride channel, voltage-sensitive KaCLCN2chloride intracellular channel 1CLC2chloride intracellular channel 3CLC2chloride intracellular channel 3CLC3chloride intracellular channel 4CLC5chloride intracellular channel 3CLC6chloride intracellular channel 1CLC6chloride intracellular channel 3CLC6chloride intracellular cha	CHRNB3	cholinergic receptor, nicotinic, beta 3 (neuronal)
CHRNEcholinergic receptor, nicotinic, gamma (muscle)CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel accessory 3CLCC1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride intracellular channel 1CLC2chloride intracellular channel 1CLC2chloride intracellular channel 2CLC3chloride intracellular channel 3CLC4chloride intracellular channel 4CLC5chloride intracellular channel 4CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3	CHRNB4	cholinergic receptor, nicotinic, beta 4 (neuronal)
CHRNGcholinergic receptor, nicotinic, gamma (muscle)CLCA1chloride channel accessory 1CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel CLIC-like 1CLCN1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 3CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 5CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN6chloride intracellular channel 1CLC2chloride intracellular channel 1CLC2chloride intracellular channel 1CLC3chloride intracellular channel 3CLC4chloride intracellular channel 4CLC5chloride intracellular channel 4CLC5chloride intracellular channel 1CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel 4CLC5chloride intracellular channel 4CLC6cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alph	CHRND	cholinergic receptor, nicotinic, delta (muscle)
CLCA1chloride channel accessory 1CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel, voltage-sensitive 1CLCN1chloride channel, voltage-sensitive 2CLCN2chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 3CLCN5chloride channel, voltage-sensitive 4CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN8chloride channel, voltage-sensitive KaCLCN7chloride channel, voltage-sensitive KaCLCN6chloride channel, voltage-sensitive KaCLCN7chloride channel, voltage-sensitive KaCLC12chloride intracellular channel 1CLC2chloride intracellular channel 1CLC2chloride intracellular channel 3CLCA3chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA)	CHRNE	cholinergic receptor, nicotinic, epsilon (muscle)
CLCA2chloride channel accessory 2CLCA3chloride channel accessory 3CLCC1chloride channel CLIC-like 1CLCN1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCN1chloride channel, voltage-sensitive KaCLCN2chloride intracellular channel 1CLC2chloride intracellular channel 3CLCA2chloride intracellular channel 3CLCA3chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 1CLC6chloride intracellular channel 3CLCA3cyclic nucleotide gated channel alpha 1CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLCA5cyclic nucleotide gated channel alpha 1CLC6cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alpha 3CNGA1cyclic nucleotide gated channel alpha 3CNGB1cyclic nucleotide gated channel beta 1 CCNGB1cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA2	CHRNG	cholinergic receptor, nicotinic, gamma (muscle)
CLCA3chloride channel accessory 3CLCC1chloride channel CLIC-like 1CLCN1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 3CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive KaCLCN7chloride channel, voltage-sensitive KaCLCN7chloride intracellular channel 1CLC2chloride intracellular channel 2CLC2chloride intracellular channel 3CLCAchloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 4CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6cyclic nucleotide gated channel alpha 1CNGA1cyclic nucleotide gated channel alpha 3CNGA2cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3<	CLCA1	chloride channel accessory 1
CLCC1chloride channel CLIC-like 1CLCN1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 6CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive KaCLCN7chloride channel, voltage-sensitive KaCLCN8chloride intracellular channel 1CLC2chloride intracellular channel 2CLC3chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 1CLC6chloride intracellular channel 3CLC6chloride intracellular channel 3CLC6chloride intracellular channel 4CLC5cyclic nucleotide gated channel alpha 1CNGA1cyclic nucleotide gated channel alpha 3CNGA2cyclic nucleotide gated channel alpha 3CNGB1cyclic nucleotide gated channel alpha 3CNGB1cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GAB	CLCA2	chloride channel accessory 2
CLCN1chloride channel, voltage-sensitive 1CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive KaCLCN7chloride channel, voltage-sensitive KaCLCN7chloride intracellular channel 1CLC2chloride intracellular channel 2CLC2chloride intracellular channel 3CLCAchloride intracellular channel 3CLCAchloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 3CNGB3cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A recep	CLCA3	chloride channel accessory 3
CLCN2chloride channel, voltage-sensitive 2CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLC1chloride channel, voltage-sensitive KbCLC2chloride intracellular channel 1CLC2chloride intracellular channel 3CLC3chloride intracellular channel 4CLC5chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 3 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4	CLCC1	chloride channel CLIC-like 1
CLCN3chloride channel, voltage-sensitive 3CLCN4chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 7CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLC1chloride channel, voltage-sensitive KbCLC2chloride intracellular channel 1CLC2chloride intracellular channel 2CLC3chloride intracellular channel 3CLC4chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 4CNGA1cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel beta 3 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5 <td>CLCN1</td> <td>chloride channel, voltage-sensitive 1</td>	CLCN1	chloride channel, voltage-sensitive 1
CLCN4Chloride channel, voltage-sensitive 4CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLC1chloride channel, voltage-sensitive KbCLC2chloride intracellular channel 1CLC2chloride intracellular channel 3CLC3chloride intracellular channel 3CLC4chloride intracellular channel 4CLC5chloride intracellular channel 5CLC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLCN2	chloride channel, voltage-sensitive 2
CLCN5chloride channel, voltage-sensitive 5CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 3CLIC5chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 4	CLCN3	chloride channel, voltage-sensitive 3
CLCN6chloride channel, voltage-sensitive 6CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 3	CLCN4	chloride channel, voltage-sensitive 4
CLCN7chloride channel, voltage-sensitive 7CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 3CNGA3cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 3	CLCN5	chloride channel, voltage-sensitive 5
CLCNKAchloride channel, voltage-sensitive KaCLCNKBchloride channel, voltage-sensitive KbCLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLCN6	chloride channel, voltage-sensitive 6
CLCNKBchloride channel, voltage-sensitive KbCLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGB1cyclic nucleotide gated channel alpha 4CNGB3cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 4	CLCN7	chloride channel, voltage-sensitive 7
CLIC1chloride intracellular channel 1CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel alpha 4CNGB3cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLCNKA	chloride channel, voltage-sensitive Ka
CLIC2chloride intracellular channel 2CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 4	CLCNKB	chloride channel, voltage-sensitive Kb
CLIC3chloride intracellular channel 3CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel alpha 4CNGB3cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC1	chloride intracellular channel 1
CLIC4chloride intracellular channel 4CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC2	chloride intracellular channel 2
CLIC5chloride intracellular channel 5CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel alpha 4CNGB3cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC3	chloride intracellular channel 3
CLIC6chloride intracellular channel 6CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC4	chloride intracellular channel 4
CNGA1cyclic nucleotide gated channel alpha 1CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC5	chloride intracellular channel 5
CNGA2cyclic nucleotide gated channel alpha 2CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CLIC6	chloride intracellular channel 6
CNGA3cyclic nucleotide gated channel alpha 3CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABAGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5	CNGA1	cyclic nucleotide gated channel alpha 1
CNGA4cyclic nucleotide gated channel alpha 4CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6	CNGA2	cyclic nucleotide gated channel alpha 2
CNGB1cyclic nucleotide gated channel beta 1 CCNGB3cyclic nucleotide gated channel beta 3 CGABAGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	CNGA3	cyclic nucleotide gated channel alpha 3
CNGB3cyclic nucleotide gated channel beta 3 CGABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6	CNGA4	cyclic nucleotide gated channel alpha 4
GABARAPGABA(A) receptor-associated proteinGABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	CNGB1	cyclic nucleotide gated channel beta 1 C
GABRA1gamma-aminobutyric acid (GABA) A receptor, alpha 1GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	CNGB3	cyclic nucleotide gated channel beta 3 C
GABRA2gamma-aminobutyric acid (GABA) A receptor, alpha 2GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABARAP	GABA(A) receptor-associated protein
GABRA3gamma-aminobutyric acid (GABA) A receptor, alpha 3GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABRA1	gamma-aminobutyric acid (GABA) A receptor, alpha 1
GABRA4gamma-aminobutyric acid (GABA) A receptor, alpha 4GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABRA2	gamma-aminobutyric acid (GABA) A receptor, alpha 2
GABRA5gamma-aminobutyric acid (GABA) A receptor, alpha 5GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABRA3	gamma-aminobutyric acid (GABA) A receptor, alpha 3
GABRA6gamma-aminobutyric acid (GABA) A receptor, alpha 6GABRB1gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABRA4	gamma-aminobutyric acid (GABA) A receptor, alpha 4
GABRB1 gamma-aminobutyric acid (GABA) A receptor, beta 1 G	GABRA5	gamma-aminobutyric acid (GABA) A receptor, alpha 5
	GABRA6	gamma-aminobutyric acid (GABA) A receptor, alpha 6
GABRB2 gamma-aminobutyric acid (GABA) A receptor, beta 2 G	GABRB1	gamma-aminobutyric acid (GABA) A receptor, beta 1 G
	GABRB2	gamma-aminobutyric acid (GABA) A receptor, beta 2 G

Nicotinic acetylcholine receptors Calcium activated chloride channel Calcium activated chloride channel Calcium activated chloride channel Mid-1-related chloride channel Voltage-sensitive chloride channel Chloride intracellular channel Cyclic nucleotide-regulated channels Cyclic nucleotide-regulated channels Cyclic nucleotide-regulated channels Cyclic nucleotide-regulated channels yclic nucleotide-regulated channels yclic nucleotide-regulated channels GABAA receptors ABAA receptors

ABAA receptors

GABRB3	gamma-aminobutyric acid (GABA) A receptor, beta 3 G	ABAA receptors
GABRD	gamma-aminobutyric acid (GABA) A receptor, delta GA	BAA receptors
GABRE	gamma-aminobutyric acid (GABA) A receptor, epsilon	GABAA receptors
GABRG1	gamma-aminobutyric acid (GABA) A receptor, gamma 1	GABAA receptors
GABRG2	gamma-aminobutyric acid (GABA) A receptor, gamma 2	GABAA receptors
GABRG3	gamma-aminobutyric acid (GABA) A receptor, gamma 3	GABAA receptors
GABRP	gamma-aminobutyric acid (GABA) A receptor, pi	GABAA receptors
GABRQ	gamma-aminobutyric acid (GABA) A receptor, theta	GABAA receptors
GABRR1	gamma-aminobutyric acid (GABA) A receptor, rho 1	GABAA receptors
GABRR2	gamma-aminobutyric acid (GABA) A receptor, rho 2	GABAA receptors
GABRR3	gamma-aminobutyric acid (GABA) A receptor, rho 3	GABAA receptors
GLRA1	glycine receptor, alpha 1	Glycine receptors
GLRA2	glycine receptor, alpha 2	Glycine receptors
GLRA3	glycine receptor, alpha 3	Glycine receptors
GLRA4	glycine receptor, alpha 4	Glycine receptors
GLRB	glycine receptor, beta	Glycine receptors
GRIA1	glutamate receptor, ionotropic, AMPA 1	Ionotropic glutamate receptors
GRIA2	glutamate receptor, ionotropic, AMPA 2	Ionotropic glutamate receptors
GRIA3	glutamate receptor, ionotropic, AMPA 3	Ionotropic glutamate receptors
GRIA4	glutamate receptor, ionotropic, AMPA 4	Ionotropic glutamate receptors
GRID1	glutamate receptor, ionotropic, delta 1	Ionotropic glutamate receptors
GRID2	glutamate receptor, ionotropic, delta 2	Ionotropic glutamate receptors
GRIK1	glutamate receptor, ionotropic, kainate 1	Ionotropic glutamate receptors
GRIK2	glutamate receptor, ionotropic, kainate 2	Ionotropic glutamate receptors
GRIK3	glutamate receptor, ionotropic, kainate 3	Ionotropic glutamate receptors
GRIK4	glutamate receptor, ionotropic, kainate 4	Ionotropic glutamate receptors
GRIK5	glutamate receptor, ionotropic, kainate 5	Ionotropic glutamate receptors
GRIN1	glutamate receptor, ionotropic, N-methyl D-aspartate 1	Ionotropic glutamate receptors
GRIN2A	glutamate receptor, ionotropic, N-methyl D-aspartate 2A	Ionotropic glutamate receptors
GRIN2B	glutamate receptor, ionotropic, N-methyl D-aspartate 2B	Ionotropic glutamate receptors
GRIN2C	glutamate receptor, ionotropic, N-methyl D-aspartate 2C	Ionotropic glutamate receptors
GRIN2D	glutamate receptor, ionotropic, N-methyl D-aspartate 2D	Ionotropic glutamate receptors
GRIN3A	glutamate receptor, ionotropic, N-methyl-D-aspartate 3A	Ionotropic glutamate receptors
GRIN3B	glutamate receptor, ionotropic, N-methyl-D-aspartate 3B	Ionotropic glutamate receptors
HCN1	hyperpolarization activated cyclic nucleotide-gated potassium channel 1	Cyclic nucleotide-regulated channels
HCN2	hyperpolarization activated cyclic nucleotide-gated potassium channel 1	Cyclic nucleotide-regulated channels
HCN3	hyperpolarization activated cyclic nucleotide-gated potassium channel 1	Cyclic nucleotide-regulated channels
HCN4	hyperpolarization activated cyclic nucleotide-gated potassium channel 1	Cyclic nucleotide-regulated channels
HTR3A	5-hydroxytryptamine (serotonin) receptor 3A,	ionotropic 5-HT3 receptors
HTR3B	5-hydroxytryptamine (serotonin) receptor 3B,	ionotropic 5-HT3 receptors
HTR3C	5-hydroxytryptamine (serotonin) receptor 3C,	ionotropic 5-HT3 receptors
HTR3D	5-hydroxytryptamine (serotonin) receptor 3D,	ionotropic 5-HT3 receptors
HTR3E	5-hydroxytryptamine (serotonin) receptor 3E,	ionotropic 5-HT3 receptors
HVCN1	hydrogen voltage-gated channel 1	Voltage-gated proton channel

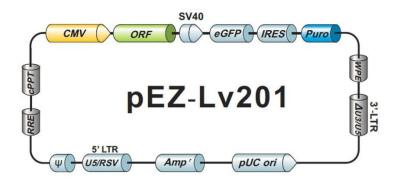
KCNA1	potassium voltage-gated channel, shaker-related subfamily, member 1 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA10	potassium voltage-gated channel, shaker-related subfamily, member 10 (episodic ataxia	Voltage-gated potassium channels
	with myokymia)	
KCNA2	potassium voltage-gated channel, shaker-related subfamily, member 2 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA3	potassium voltage-gated channel, shaker-related subfamily, member 3 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA4	potassium voltage-gated channel, shaker-related subfamily, member 4 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA5	potassium voltage-gated channel, shaker-related subfamily, member 5 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA6	potassium voltage-gated channel, shaker-related subfamily, member 6 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNA7	potassium voltage-gated channel, shaker-related subfamily, member 7 (episodic ataxia with	Voltage-gated potassium channels
	myokymia)	
KCNAB1	potassium voltage-gated channel, shaker-related subfamily, beta member 1	Voltage-gated potassium channels
KCNAB2	potassium voltage-gated channel, shaker-related subfamily, beta member 2	Voltage-gated potassium channels
KCNAB3	potassium voltage-gated channel, shaker-related subfamily, beta member 3	Voltage-gated potassium channels
KCNB1	potassium voltage-gated channel, Shab-related subfamily, member 1	Voltage-gated potassium channels
KCNB2	potassium voltage-gated channel, Shab-related subfamily, member 2	Voltage-gated potassium channels
KCNC1	potassium voltage-gated channel, Shaw-related subfamily, member 1	Voltage-gated potassium channels
KCNC2	potassium voltage-gated channel, Shaw-related subfamily, member 2	Voltage-gated potassium channels
КСМСЗ	potassium voltage-gated channel, Shaw-related subfamily, member 3	Voltage-gated potassium channels
KCNC4	potassium voltage-gated channel, Shaw-related subfamily, member 4	Voltage-gated potassium channels
KCND1	potassium voltage-gated channel, Shal-related subfamily, member 1	Voltage-gated potassium channels
KCND2	potassium voltage-gated channel, Shal-related subfamily, member 2	Voltage-gated potassium channels
KCND3	potassium voltage-gated channel, Shal-related subfamily, member 3	Voltage-gated potassium channels
KCNE1	potassium voltage-gated channel, Isk-related family, member 1	Voltage-gated potassium channels
KCNE1L	KCNE1-like	Voltage-gated potassium channels
KCNE2	potassium voltage-gated channel, Isk-related family, member 2	Voltage-gated potassium channels
KCNE3	potassium voltage-gated channel, Isk-related family, member 3	Voltage-gated potassium channels
KCNE4	potassium voltage-gated channel, Isk-related family, member 4	Voltage-gated potassium channels
KCNF1	potassium voltage-gated channel, subfamily F, member 1	Voltage-gated potassium channels
KCNG1	potassium voltage-gated channel, subfamily G, member 1	Voltage-gated potassium channels
KCNG2	potassium voltage-gated channel, subfamily G, member 2	Voltage-gated potassium channels
KCNG3	potassium voltage-gated channel, subfamily G, member 3	Voltage-gated potassium channels
KCNG4	potassium voltage-gated channel, subfamily G, member 4	Voltage-gated potassium channels
KCNH1	potassium voltage-gated channel, subfamily H (eagrelated), member 1	Voltage-gated potassium channels
KCNH2	potassium voltage-gated channel, subfamily H (eagrelated), member 2	Voltage-gated potassium channels
КСNН3	potassium voltage-gated channel, subfamily H (eagrelated), member 3	Voltage-gated potassium channels
KCNH4	potassium voltage-gated channel, subfamily H (eagrelated), member 4	Voltage-gated potassium channels
KCNH5	potassium voltage-gated channel, subfamily H (eagrelated), member 5	Voltage-gated potassium channels
КСМН6	potassium voltage-gated channel, subfamily H (eagrelated), member 6	Voltage-gated potassium channels

KCNH7	potassium voltage-gated channel, subfamily H (eagrelated), member 7	Voltage-gated potassium channels
КСПН8	potassium voltage-gated channel, subfamily H (eagrelated), member 8	Voltage-gated potassium channels
KCNJ1	potassium inwardly-rectifying channel, subfamily J, member 1	Inwardly rectifying potassium channels
KCNJ10	potassium inwardly-rectifying channel, subfamily J, member 10	Inwardly rectifying potassium channels
KCNJ11	potassium inwardly-rectifying channel, subfamily J, member 11	Inwardly rectifying potassium channels
KCNJ12		
	potassium inwardly-rectifying channel, subfamily J, member 12	Inwardly rectifying potassium channels
KCNJ13	potassium inwardly-rectifying channel, subfamily J, member 13	Inwardly rectifying potassium channels
KCNJ14	potassium inwardly-rectifying channel, subfamily J, member 14	Inwardly rectifying potassium channels
KCNJ15	potassium inwardly-rectifying channel, subfamily J, member 15	Inwardly rectifying potassium channels
KCNJ16	potassium inwardly-rectifying channel, subfamily J, member 16	Inwardly rectifying potassium channels
KCNJ18	potassium inwardly-rectifying channel, subfamily J, member 18	Inwardly rectifying potassium channels
KCNJ2	potassium inwardly-rectifying channel, subfamily J, member 2	Inwardly rectifying potassium channels
KCNJ3	potassium inwardly-rectifying channel, subfamily J, member 3	Inwardly rectifying potassium channels
KCNJ4	potassium inwardly-rectifying channel, subfamily J, member 4	Inwardly rectifying potassium channels
KCNJ5	potassium inwardly-rectifying channel, subfamily J, member 5	Inwardly rectifying potassium channels
KCNJ6	potassium inwardly-rectifying channel, subfamily J, member 6	Inwardly rectifying potassium channels
КСЛЈ8	potassium inwardly-rectifying channel, subfamily J, member 8	Inwardly rectifying potassium channels
KCNJ9	potassium inwardly-rectifying channel, subfamily J, member 9	Inwardly rectifying potassium channels
KCNK1	potassium channel, subfamily K, member 1	Two-P potassium channels
KCNK10	potassium channel, subfamily K, member 10	Two-P potassium channels
KCNK12	potassium channel, subfamily K, member 12	Two-P potassium channels
KCNK13	potassium channel, subfamily K, member 13	Two-P potassium channels
KCNK15	potassium channel, subfamily K, member 15	Two-P potassium channels
KCNK16	potassium channel, subfamily K, member 16	Two-P potassium channels
KCNK17	potassium channel, subfamily K, member 17	Two-P potassium channels
KCNK18	potassium channel, subfamily K, member 18	Two-P potassium channels
KCNK2	potassium channel, subfamily K, member 2	Two-P potassium channels
КСМКЗ	potassium channel, subfamily K, member 3	Two-P potassium channels
KCNK4	potassium channel, subfamily K, member 4	Two-P potassium channels
KCNK5	potassium channel, subfamily K, member 5	Two-P potassium channels
KCNK6	potassium channel, subfamily K, member 6	Two-P potassium channels
KCNK7	potassium channel, subfamily K, member 7	Two-P potassium channels
KCNK9	potassium channel, subfamily K, member 9	Two-P potassium channels
KCNMA1	potassium large conductance calcium-activated channel, subfamily M, alpha member 1	Calcium-activated potassium channels
KCNMB1	potassium large conductance calcium-activated channel, subfamily M, beta member 1	Calcium-activated potassium channels
KCNMB2	potassium large conductance calcium-activated channel, subfamily M, beta member 2	Calcium-activated potassium channels
КСММВ3	potassium large conductance calcium-activated channel, subfamily M, beta member 3	Calcium-activated potassium channels
KCNMB4	potassium large conductance calcium-activated channel, subfamily M, beta member 4	Calcium-activated potassium channels
KCNN1	potassium intermediate/small conductance calciumactivated channel, subfamily N, member	Calcium-activated potassium channels
	1	
KCNN2	potassium intermediate/small conductance calciumactivated channel, subfamily N, member	Calcium-activated potassium channels
	2	
KCNN3	potassium intermediate/small conductance calciumactivated channel, subfamily N, member	Calcium-activated potassium channels
NCIVINO		calcium-activateu potassium tridimels
	3	

KCNN4	potassium intermediate/small conductance calciumactivated channel, subfamily N, member	Calcium-activated potassium channels
	4	
KCNQ1	potassium voltage-gated channel, KQT-like subfamily, member 1	Voltage-gated potassium channels
KCNQ2	potassium voltage-gated channel, KQT-like subfamily, member 2	Voltage-gated potassium channels
KCNQ3	potassium voltage-gated channel, KQT-like subfamily, member 3	Voltage-gated potassium channels
KCNQ4	potassium voltage-gated channel, KQT-like subfamily, member 4	Voltage-gated potassium channels
KCNQ5	potassium voltage-gated channel, KQT-like subfamily, member 5	Voltage-gated potassium channels
KCNS1	potassium voltage-gated channel, delayed-rectifier, subfamily S, member 1	Voltage-gated potassium channels
KCNS2	potassium voltage-gated channel, delayed-rectifier, subfamily S, member 2	Voltage-gated potassium channels
KCNS3	potassium voltage-gated channel, delayed-rectifier, subfamily S, member 3	Voltage-gated potassium channels
KCNT1	potassium channel, subfamily T, member 1	Calcium-activated potassium channels
KCNT2	potassium channel, subfamily T, member 2	Calcium-activated potassium channels
KCNU1	potassium channel, subfamily U, member 1	Calcium-activated potassium channels
KCNV1	potassium channel, subfamily V, member 1	Voltage-gated potassium channels
KCNV2	potassium channel, subfamily V, member 2	Voltage-gated potassium channels
MCOLN1	mucolipin 1	Transient receptor potential channels
MCOLN2	mucolipin 2	Transient receptor potential channels
MCOLN3	mucolipin 3	Transient receptor potential channels
NALCN	sodium leak channel, non-selective	Voltage-independent cation channels
P2RX1	purinergic receptor P2X, ligand-gated ion channel, 1	P2X receptors
P2RX2	purinergic receptor P2X, ligand-gated ion channel, 2	P2X receptors
P2RX3	purinergic receptor P2X, ligand-gated ion channel, 3	P2X receptors
P2RX4	purinergic receptor P2X, ligand-gated ion channel, 4	P2X receptors
P2RX5	purinergic receptor P2X, ligand-gated ion channel, 5	P2X receptors
P2RX6	purinergic receptor P2X, ligand-gated ion channel, 6	P2X receptors
P2RX7	purinergic receptor P2X, ligand-gated ion channel, 7	P2X receptors
PKD1	polycystic kidney disease 1 (autosomal dominant)	Transient receptor potential channels
PKD2	polycystic kidney disease 2 (autosomal dominant)	Transient receptor potential channels
PKD2L1	polycystic kidney disease 2-like 1	Transient receptor potential channels
PKD2L2	polycystic kidney disease 2-like 2	Transient receptor potential channels
SCN10A	sodium channel, voltage-gated, type X, alpha subunit	Voltage-gated sodium channels
SCN11A	sodium channel, voltage-gated, type XI, alpha subunit	Voltage-gated sodium channels
SCN1A	sodium channel, voltage-gated, type I, alpha subunit	Voltage-gated sodium channels
SCN1B	sodium channel, voltage-gated, type I, beta subunit	Voltage-gated sodium channels
SCN2A	sodium channel, voltage-gated, type II, alpha subunit	Voltage-gated sodium channels
SCN2B	sodium channel, voltage-gated, type II, beta subunit	Voltage-gated sodium channels
SCN3A	sodium channel, voltage-gated, type III, alpha subunit	Voltage-gated sodium channels
SCN3B	sodium channel, voltage-gated, type III, beta subunit	Voltage-gated sodium channels
SCN4A	sodium channel, voltage-gated, type IV, alpha subunit	Voltage-gated sodium channels
SCN4B	sodium channel, voltage-gated, type IV, beta subunit	Voltage-gated sodium channels
SCN5A	sodium channel, voltage-gated, type V, alpha subunit	Voltage-gated sodium channels
SCN7A	sodium channel, voltage-gated, type VII, alpha subunit	Voltage-gated sodium channels
SCN8A	sodium channel, voltage gated, type VIII, alpha subunit	Voltage-gated sodium channels
SCN9A	sodium channel, voltage-gated, type IX, alpha subunit	Voltage-gated sodium channels

SCNN1A	sodium channel, non-voltage-gated 1 alpha subunit	Nonvoltage-gated sodium channels
SCNN1B	sodium channel, non-voltage-gated 1, beta subunit	Nonvoltage-gated sodium channels
SCNN1D	sodium channel, non-voltage-gated 1, delta subunit	Nonvoltage-gated sodium channels
SCNN1G	sodium channel, non-voltage-gated 1, gamma subunit	Nonvoltage-gated sodium channels
TPCN1	two pore segment channel 1	CatSper and two-pore channels
TPCN2	two pore segment channel 2	CatSper and two-pore channels
TRPA1	transient receptor potential cation channel, subfamily A, member 1	Transient receptor potential channels
TRPC1	transient receptor potential cation channel, subfamily C, member 1	Transient receptor potential channels
TRPC3	transient receptor potential cation channel, subfamily C, member 3	Transient receptor potential channels
TRPC4	transient receptor potential cation channel, subfamily C, member 4	Transient receptor potential channels
TRPC5	transient receptor potential cation channel, subfamily C, member 5	Transient receptor potential channels
TRPC6	transient receptor potential cation channel, subfamily C, member 6	Transient receptor potential channels
TRPC7	transient receptor potential cation channel, subfamily C, member 7	Transient receptor potential channels
TRPM1	transient receptor potential cation channel, subfamily M, member 1	Transient receptor potential channels
TRPM2	transient receptor potential cation channel, subfamily M, member 2	Transient receptor potential channels
TRPM3	transient receptor potential cation channel, subfamily M, member 3	Transient receptor potential channels
TRPM4	transient receptor potential cation channel, subfamily M, member 4	Transient receptor potential channels
TRPM5	transient receptor potential cation channel, subfamily M, member 5	Transient receptor potential channels
TRPM6	transient receptor potential cation channel, subfamily M, member 6	Transient receptor potential channels
TRPM7	transient receptor potential cation channel, subfamily M, member 7	Transient receptor potential channels
TRPM8	transient receptor potential cation channel, subfamily M, member 8	Transient receptor potential channels
TRPV1	transient receptor potential cation channel, subfamily V, member 1	Transient receptor potential channels
TRPV2	transient receptor potential cation channel, subfamily V, member 2	Transient receptor potential channels
TRPV3	transient receptor potential cation channel, subfamily V, member 3	Transient receptor potential channels
TRPV4	transient receptor potential cation channel, subfamily V, member 4	Transient receptor potential channels
TRPV5	transient receptor potential cation channel, subfamily V, member 5	Transient receptor potential channels
TRPV6	transient receptor potential cation channel, subfamily V, member 6	Transient receptor potential channels
VDAC1	voltage-dependent anion channel 1	voltage-dependent anion channel
VDAC2	voltage-dependent anion channel 2	voltage-dependent anion channel
VDAC3	voltage-dependent anion channel 3	voltage-dependent anion channel
ZACN	zinc activated ligand-gated ion channel	ZAC

**Figure S1.** EX-T1882-Lv201 vectors for the transduction of the KCNB1 gene.



**Figure S2.** (A) Immunofluorescence of KCNB1+ (eGFP) cells. (B) Modulation of migration in U87MG and U118MG cells by KCNB1 transduction and its rescue by specific KCNB1 siRNA. *P* values were calculated with two-sided Student's t test. Scale bar, 25um. \* p < 0.05.

