

A

KCNH2-CM	1	atgccagttagacgcgggtcatggtgcacctcaaaacacgtttcttgatac	50
		
KCNH2-NT	1	atgccggtgvcggagggggccacgtcgcgccgcagaacaccttctctggacac	50
KCNH2-CM	51	gattatccggaattcgaagggcaatctaggaaattcatcattgctaatg	100
		
KCNH2-NT	51	catcatccgcaagtttgagggccagagccgtaagttcatcatcgccaacg	100
KCNH2-CM	101	ccagagtcgagaattgvcgctgtgatctactgtaatgatggggtttgtgaa	150
		
KCNH2-NT	101	ctcgggtggagaactgvcgccgtcatctactgcaacgacggcttctgvcgag	150
KCNH2-CM	151	ctctgtgggtatagcagagctgaagtcatgcaaaggccttgtacatgtga	200
		
KCNH2-NT	151	ctgtgvcggctactcvcggggccgaggtgatgcagvcgaccctgcacctvcga	200
KCNH2-CM	201	ttttctccacggccctaggacccaaaggagggccgctgcccaaattgcc	250
		
KCNH2-NT	201	cttctctgcacggggccvcgvcagvcagvcgvcgctgvcgvcgagatvcgvc	250
KCNH2-CM	251	aagccctcctcggggcagaagaaaggaaggtcvcgagattgctttctatcgg	300
		
KCNH2-NT	251	aggcactgctgggvcgvcgagagvcgcaaagtggaatvcgccttctaccgg	300
KCNH2-CM	301	aaggacggctcttgttttctctgcctcvcgatgvcgvcctctgcaaaaa	350
		
KCNH2-NT	301	aaagatgggagctgcttctctatgtctggtggatgvcggtgcccgtgaagaa	350
KCNH2-CM	351	vcgagvcggtgvcgctgattatgvtcacttaactttgaagtcvcgcatgg	400
		
KCNH2-NT	351	vcgagvatggggctgtcatcatgvtcatcctcaatttcvcgaggtggtgatgg	400
KCNH2-CM	401	aaaaagatatggtvcgvcagtcvcgcccacgatataaatcatagagggcct	450
		
KCNH2-NT	401	agaaggacatggtgggggtccccggctcatgacaccaaccacggggcccc	450
KCNH2-CM	451	cctacatcttggctvcgctccccgggagggctaaaacattcaggctcaaact	500
		
KCNH2-NT	451	cccaccagctggctggccccaggccvcgccaagaccttccvcgctgaagct	500
KCNH2-CM	501	ccctgcactcctvcgcttgaccgctagagaaagvcagvcgctcagatcaggag	550
		
KCNH2-NT	501	gcccvcgctgctggvcgctgacggccccgggagtcvcgctcgggtvcggtvcggvcg	550
KCNH2-CM	551	vcgctggaggggctggagccccctggvcgctgvcgctcvcgctcvcgatvcgatctc	600
		
KCNH2-NT	551	vcgvcgggvcgvcgvcgvcgccccgggggvcgctggtggtggacvtggacctg	600
KCNH2-CM	601	accctgctgcccccttcttctgaatctctvcgctcvcgatgaggtcaccvc	650
		
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KCNH2-CM	651	tatggataatcatgvcgvcggttgggccccctgvcggaagaaagaagggccc	700
		
KCNH2-NT	651	catggacaaccacvtggvcagggctcgggccccvcgvcgagvcgvcgctvcgvc	700

KCNH2-CM	701	tcgtcggccctggttctccccacgggtctgccccagggcaattgcctagc	750
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KCNH2-CM	851	gcgctgatgatattgaagctatgagggctggcgtcctccctccacccccca	900
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KCNH2-CM	901	aggcatgcttctacagggcgtatgcatcccctgaggtctgggctcttgaa	950
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KCNH2-CM	1001	cacaaatcacattgaatttcgttgatttgaaaggcgatccttttctcgcc	1050
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KCNH2-CM	1051	agccctacatccgatagggagatcatcgccccaaaatcaaagaaaggac	1100
		
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KCNH2-CM	1101	acataacgtgaccgaaaaagtgcacaaagtgctcagtcctcggggctgatg	1150
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KCNH2-CM	1151	tcctccccgagtacaagctccaagctccaagaattcacaggtggacaatt	1200
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KCNH2-NT	2101	ttccagcagcctggctctacaccaacggcatcgacatgaacgcgggtgct	2150
KCNH2-CM	2151	caaagggtttcccgaatgtctccaagccgacatctgtctccatctcaata	2200
		
KCNH2-NT	2151	gaagggcttccctgagtgacctgcaggtgacatctgacctgcacctgaacc	2200
KCNH2-CM	2201	ggagcctcctccaacattgtaagccatttcgggggtgccacaaaaggggtg	2250
		
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KCNH2-CM	2251	ttgcgggctctcgctatgaaattcaaaacaacccatgcacccccaggcga	2300
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KCNH2-CM	2301	taccctcgtccacgcggagatctcttgacagctctctacttcatctcca	2350
		
KCNH2-NT	2301	cacactggtgcatgctggggacctgctcaccgccctgtacttcatctccc	2350
KCNH2-CM	2351	gagggagattgaaattctcagaggggatgtgggtggtcgctattctcggc	2400
		
KCNH2-NT	2351	ggggctccatcgagatcctgcgggggcgacgtcgtcgtggccatcctgggg	2400
KCNH2-CM	2401	aaaaacgacatctttggcgaaccactcaatctctacgccagaccgggaa	2450
		
KCNH2-NT	2401	aagaatgacatctttggggagcctctgaacctgtatgcaaggcctggcaa	2450
KCNH2-CM	2451	aagcaatggcgcagctcagagctttgacatattgcgatttgacacaagatcc	2500
		
KCNH2-NT	2451	gtcgaacggggatgtgcgggccctcacctactgtgacctacacaagatcc	2500
KCNH2-CM	2501	acagagatgatctcctcgaagtccctcgatagtatccccaggttagtgat	2550
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KCNH2-NT	2501	atcgggacgacctgctggagggtgctggacatgtaccctgagttctccgac	2550
KCNH2-CM	2551	cacttttgagttctctcgaaatcaccttcaatctcagggacacaaacat	2600
		
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KCNH2-CM	2601	gattcccgggagtgccaggggtccaccgaactggaaggcgggtttccagac	2650
		
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KCNH2-CM	2651	agaggaaaaggaaactcagttttaggaggcgcacggataaagataccgaa	2700
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KCNH2-NT	2651	aacgcaagcgcaagttgtccttccgcagggcgcacggacaaggacacggag	2700
KCNH2-CM	2701	caaccggcgaagtgcagcgtctgggcccctggcagagcaggagcaggccc	2750
		
KCNH2-NT	2701	cagccaggggaggtgtcggccttggggccggggccggggcggggcagggcc	2750
KCNH2-CM	2751	ttcctcaagagggaggccaggaggtccctggggagaaatctcccagttccg	2800
		
KCNH2-NT	2751	gagtagccggggccggccggggggggccgtggggggagagcccgtccagtg	2800

hERG-NT	MPVRRGHVAPQNTFLDTIIRKFEGQSRKFIIANARVENCACAVIYCNDFGFCLECGYSRAEVM	60
hERG-CM	MPVRRGHVAPQNTFLDTIIRKFEGQSRKFIIANARVENCACAVIYCNDFGFCLECGYSRAEVM *****	60
hERG-NT	QRPCTCDFLHGPRTORRAAAQIAQALLGAERKVEIAFYRKDGSCFLCLVDVVPVKNEDEG	120
hERG-CM	QRPCTCDFLHGPRTORRAAAQIAQALLGAERKVEIAFYRKDGSCFLCLVDVVPVKNEDEG *****	120
hERG-NT	AVIMFILNFVVMKDMVGS PAHDTNHRGPP TSWLAPGRAKTFRLKLPALLALTARESSV	180
hERG-CM	AVIMFILNFVVMKDMVGS PAHDTNHRGPP TSWLAPGRAKTFRLKLPALLALTARESSV *****	180
hERG-NT	RSGGAGGAGAPGAVVVDVLT PAAPSSS LALDEVTAMD NHVAGLPAEERRALVGP GSP	240
hERG-CM	RSGGAGGAGAPGAVVVDVLT PAAPSSS LALDEVTAMD NHVAGLPAEERRALVGP GSP *****	240
hERG-NT	PRSAPGQLPS PRAHSLNP DASGSSCSLAR TRSRESCASVRRASSADD IEAMRAGVL PPPP	300
hERG-CM	PRSAPGQLPS PRAHSLNP DASGSSCSLAR TRSRESCASVRRASSADD IEAMRAGVL PPPP *****	300
hERG-NT	RHASTGAMHPLRSGLLNSTSDSDLVRYRTISKIPQITLNFVDLKGDPFLASPTSDREIIA	360
hERG-CM	RHASTGAMHPLRSGLLNSTSDSDLVRYRTISKIPQITLNFVDLKGDPFLASPTSDREIIA *****	360
hERG-NT	PKIKERTHNVTEKVTQVLSL GADVLPEYK LQAPRIHRWTILHYS PFKAVDWL LLLLVIY	420
hERG-CM	PKIKERTHNVTEKVTQVLSL GADVLPEYK LQAPRIHRWTILHYS PFKAVDWL LLLLVIY *****	420
hERG-NT	TAVFTPYSA AFLLKETE EGP PAT ECGYACQ PLAVVDLIVD IMFIVDILINFR TTYVNANE	480
hERG-CM	TAVFTPYSA AFLLKETE EGP PAT ECGYACQ PLAVVDLIVD IMFIVDILINFR TTYVNANE *****	480
hERG-NT	EVVSHPGRIAVHYFKGWFLIDMVA AIPFDLLIFGSGS EELIGLLKTARLLRLVRVARKLD	540
hERG-CM	EVVSHPGRIAVHYFKGWFLIDMVA AIPFDLLIFGSGS EELIGLLKTARLLRLVRVARKLD *****	540
hERG-NT	RYSEYGA AVFLFLMCTFALIAHWLACI WYAI GNM EQPHMDSRIGWLHNLGDQIGKPYNSS	600
hERG-CM	RYSEYGA AVFLFLMCTFALIAHWLACI WYAI GNM EQPHMDSRIGWLHNLGDQIGKPYNSS *****	600
hERG-NT	GLGGPSIKDKYVTALYFTFSS L TSVGFGNVSPNTNSEKIF SICVMLIGSLMYASIFGNVS	660
hERG-CM	GLGGPSIKDKYVTALYFTFSS L TSVGFGNVSPNTNSEKIF SICVMLIGSLMYASIFGNVS *****	660
hERG-NT	AIIQRLYSGTARYHTQMLRVREFIRFHQIPNPLRQRLEEYFQHAWSYTNGIDMNAVLKGF	720
hERG-CM	AIIQRLYSGTARYHTQMLRVREFIRFHQIPNPLRQRLEEYFQHAWSYTNGIDMNAVLKGF *****	720
hERG-NT	PECLQADICLHLNRSLLQHCKPFRGATKGCLRALAMKFKTTHAPPGDTLVHAGDLLTALY	780
hERG-CM	PECLQADICLHLNRSLLQHCKPFRGATKGCLRALAMKFKTTHAPPGDTLVHAGDLLTALY *****	780
hERG-NT	FISRGSIEILRGDVVVA I L GKN DIFGEPLNLYARPGKSN GDV RALTYCDLHKIHRDDLLE	840
hERG-CM	FISRGSIEILRGDVVVA I L GKN DIFGEPLNLYARPGKSN GDV RALTYCDLHKIHRDDLLE *****	840
hERG-NT	VLDMPYEFSDHFWSSLEITFNLRD TNMIPGSPGSTELEGGFSRQRKRKLSFRRRTDKDTE	900
hERG-CM	VLDMPYEFSDHFWSSLEITFNLRD TNMIPGSPGSTELEGGFSRQRKRKLSFRRRTDKDTE *****	900
hERG-NT	QPGEVSALGPGRAGAPSSRGRPGGPWGES PSSGSPSSPE SSEDEG PGRSSSPLRLV P FSS	960
hERG-CM	QPGEVSALGPGRAGAPSSRGRPGGPWGES PSSGSPSSPE SSEDEG PGRSSSPLRLV P FSS *****	960
hERG-NT	PRPPGEPGGPEPLMEDCEKSSDTCNPLSGAFSGVSNIFSFWDGSRGRQYQELPRCPAPT P	1020
hERG-CM	PRPPGEPGGPEPLMEDCEKSSDTCNPLSGAFSGVSNIFSFWDGSRGRQYQELPRCPAPT P *****	1020

hERG-NT SLLNIPLSSPGRRPRGDVESRLDALQRQLNRLETRLSDMATVLQLLQRQMTLVPPAYSA 1080

hERG-CM SLLNIPLSSPGRRPRGDVESRLDALQRQLNRLETRLSDMATVLQLLQRQMTLVPPAYSA 1080

hERG-NT VTTPGPGPTSTSPLLPVSPLPTLTLDSLSQVSQFMACEELPPGAPQLPQEGPTRRLSLPG 1140

hERG-CM VTTPGPGPTSTSPLLPVSPLPTLTLDSLSQVSQFMACEELPPGAPQLPQEGPTRRLSLPG 1140

hERG-NT QLGALTSQPLHRHGSDPGS 1159

hERG-CM QLGALTSQPLHRHGSDPGS 1159

Supplementary Figure 1: Nucleotide and protein sequence alignment of hERG-NT and hERG-CM.

A) hERG-NT and hERG-CM nucleotide alignment demonstrating the extensive nucleotide sequence changes in hERG-CM. B) Amino acid alignment of hERG-NT and hERG-CM, demonstrating 100% protein sequence identity.