

## Supplement

### Sodium Channels Involved In Initiation Of Action Potentials In Invertebrate And Mammalian Neurons

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**Supplementary Data.** Human Na<sub>v</sub> channels alignments.

**Red** – polar, acidic amino acids

**Light blue** – polar, basic amino acids

**Grey** – non-polar, hydrophobic amino acids

**Green** – polar, uncharged amino acids

**Purple** - cysteine

#### Abbreviations:

DI - Domain I

DII - Domain II

DIII - Domain III

DIV - Domain IV

Inact.gate – inactivation gate

Nav1.1 1 ---MEQTVLVPPGPD<sup>S</sup>FNFF<sup>T</sup>RESLAAIE<sup>R</sup>RIAE<sup>E</sup>EKAKNP<sup>K</sup>PKP-----DKKD-DDENGPKPNSDLEAGKNLP  
 Nav1.2 1 ---MAQSVLVPPGPD<sup>S</sup>FRFF<sup>T</sup>RESLAAIE<sup>R</sup>QRIAE<sup>E</sup>EKAKRP<sup>K</sup>KQ-----ERKDEDDENGPKPNSDLEAGKSLP  
 Nav1.3 1 ---MAQALLVPPGPES<sup>F</sup>RLFT<sup>R</sup>RESLAAIE<sup>K</sup>KRAAE<sup>E</sup>EKAKPK<sup>K</sup>-----EQDN-DDENKPKPNSDLEAGKNLP  
 Nav1.4 1 MARPS<sup>L</sup>CL<sup>T</sup>LVPLGPE<sup>C</sup>LRPFT<sup>R</sup>RESLAAIE<sup>Q</sup>RAVEE<sup>E</sup>EARLQ<sup>R</sup>N-----KQME-IEEPERKPRSDLEAGKNLP  
 Nav1.5 1 ----MANFLLPRGTSS<sup>F</sup>RRFT<sup>R</sup>RESLAAIE<sup>K</sup>RMAE<sup>K</sup>QARGST<sup>L</sup>LOE-SREGLP<sup>E</sup>EEA<sup>R</sup>PRQLDLQASK<sup>K</sup>LP  
 Nav1.6 1 ---MAARLLAPP<sup>G</sup>PD<sup>S</sup>FKPFT<sup>P</sup>ESLANI<sup>E</sup>RRIAE<sup>S</sup>KLKKPPKADGSH<sup>R</sup>ED-DEDSKPKPNSDLEAGKSLP  
 Nav1.7 1 ----MAMLPPP<sup>G</sup>QPSFVHFT<sup>K</sup>QSLALIE<sup>Q</sup>RIAERK<sup>S</sup>KEPK<sup>E</sup>-----EKKD-DDEEAPKPSDLEAGKQLP  
 Nav1.8 1 ----MEFPIGSLE<sup>T</sup>NNFRFT<sup>P</sup>ESLV<sup>E</sup>IEKQIAAKQGT<sup>K</sup>KARE<sup>K</sup>--HREQKD<sup>E</sup>EEKPRPQLDLKAC<sup>N</sup>QLP  
 Nav1.9 1 MDDRCY<sup>P</sup>VIFPDERN-FRPFTSDSLAAIE<sup>K</sup>RIAIQ<sup>E</sup>KKK<sup>S</sup>K---DOTG--EVQPRPQLDLKAS<sup>R</sup>KLP

Nav1.1 63 FIYGDIPPE<sup>M</sup>VSEPLEDLDPYYINKKT<sup>F</sup>IVLNK<sup>G</sup>KAIFRFSAT<sup>S</sup>ALYILT<sup>P</sup>PNPLRKIAIKILVH<sup>S</sup>LF<sup>S</sup>M  
 Nav1.2 64 FIYGDIPPE<sup>M</sup>VSPLEDLDPYYINKKT<sup>F</sup>IVLNK<sup>G</sup>KAIS<sup>R</sup>FSATPALYILT<sup>P</sup>PNPIRKLAIAIKILVH<sup>S</sup>LF<sup>N</sup>M  
 Nav1.3 63 FIYGDIPPE<sup>M</sup>VSEPLEDLDPYYINKKT<sup>F</sup>IVMNK<sup>G</sup>KAIFRFSAT<sup>S</sup>ALYILT<sup>P</sup>PNPVRKIAIKILVH<sup>S</sup>LF<sup>S</sup>M  
 Nav1.4 66 MIYGDPPP<sup>E</sup>VIGIPLEDLDPYYSNKT<sup>F</sup>IVLNK<sup>G</sup>KAIFRFSAT<sup>S</sup>PALYLLSPFV<sup>V</sup>RRGAIKVLIHAL<sup>F</sup>LS<sup>M</sup>  
 Nav1.5 66 DLYGNPPQ<sup>E</sup>LIGEPLEDLDPFYSTQKT<sup>F</sup>IVLNK<sup>G</sup>KTIFRFSAT<sup>N</sup>ALYVLS<sup>P</sup>FHP<sup>I</sup>RRAAVKILVH<sup>S</sup>LF<sup>N</sup>M  
 Nav1.6 67 FIYGDIPQ<sup>G</sup>LVAVPLEDFDPYYLTQKT<sup>F</sup>VVLNRGKT<sup>L</sup>FRFSATPALYILSP<sup>F</sup>NLIRRIAIKILIH<sup>S</sup>VF<sup>S</sup>M  
 Nav1.7 61 FIYGDIPP<sup>G</sup>MVSEPLEDLDPYYAD<sup>K</sup>KT<sup>F</sup>IVLNK<sup>G</sup>KTIFR<sup>F</sup>NATPALYMLSP<sup>S</sup>PLRRIS<sup>I</sup>KILVH<sup>S</sup>LF<sup>S</sup>M  
 Nav1.8 65 KFYGELPA<sup>E</sup>LIGEPLEDLDPFYSTHRT<sup>F</sup>MVLNKGRT<sup>I</sup>S<sup>R</sup>FSATRALWLFSP<sup>F</sup>NLIRRTAIKVS<sup>V</sup>HWF<sup>S</sup>L  
 Nav1.9 64 KLYGDIPRE<sup>L</sup>IGKPLEDLDPFYRNHKT<sup>F</sup>MVLN<sup>R</sup>KRTIY<sup>R</sup>FSAKHALFIFGP<sup>F</sup>NSIRSLAIRVSVH<sup>S</sup>LF<sup>S</sup>M

Nav1.1 133 LIMCTIL<sup>T</sup>NCVFM<sup>T</sup>MSNPPD<sup>W</sup>TKN----VEYFTG<sup>I</sup>YTFES<sup>L</sup>IKIARG<sup>F</sup>CLED<sup>F</sup>FLRDPWNWLD<sup>F</sup>TVI  
 Nav1.2 134 LIMCTIL<sup>T</sup>NCVFM<sup>T</sup>MSNPPD<sup>W</sup>TKN----VEYFTG<sup>I</sup>YTFES<sup>L</sup>IKILARG<sup>F</sup>CLED<sup>F</sup>FLRDPWNWLD<sup>F</sup>TVI  
 Nav1.3 133 LIMCTIL<sup>T</sup>NCVFM<sup>T</sup>LSNPPD<sup>W</sup>TKN----VEYFTG<sup>I</sup>YTFES<sup>L</sup>IKILARG<sup>F</sup>CLED<sup>F</sup>FLRDPWNWLD<sup>F</sup>SVI  
 Nav1.4 136 FIMITIL<sup>T</sup>NCVFM<sup>T</sup>SDPPPWSK<sup>N</sup>----VEYFTG<sup>I</sup>YTFES<sup>L</sup>IKILARG<sup>F</sup>CVDD<sup>F</sup>FLRDPWNWLD<sup>F</sup>SVI  
 Nav1.5 136 LIMCTIL<sup>T</sup>NCVFM<sup>A</sup>QHDPPPWT<sup>K</sup>Y----VEYFTAI<sup>Y</sup>TFES<sup>L</sup>VKILARG<sup>F</sup>CLHA<sup>F</sup>FLRDPWNWLD<sup>F</sup>SVI  
 Nav1.6 137 IIMCTIL<sup>T</sup>NCVFM<sup>T</sup>FSNPPD<sup>W</sup>SKN----VEYFTG<sup>I</sup>YTFES<sup>L</sup>VKIIARG<sup>F</sup>CID<sup>G</sup>FLRDPWNWLD<sup>F</sup>SVI  
 Nav1.7 131 LIMCTIL<sup>T</sup>NCIFM<sup>T</sup>MNNPPD<sup>W</sup>TKN----VEYFTG<sup>I</sup>YTFES<sup>L</sup>VKILARG<sup>F</sup>CVGE<sup>F</sup>FLRDPWNWLD<sup>F</sup>VVI  
 Nav1.8 135 FIITVIL<sup>V</sup>NCVCM<sup>T</sup>TRTDLPE---K----IEYVFT<sup>I</sup>VIYTFEAL<sup>I</sup>KILARG<sup>F</sup>CLNE<sup>F</sup>TYL<sup>R</sup>DPWNWLD<sup>F</sup>SVI  
 Nav1.9 134 FIIGTVIIN<sup>C</sup>VFMA<sup>T</sup>GPAKNSNSNNT<sup>D</sup>IAECV<sup>F</sup>TG<sup>I</sup>YTFEAL<sup>I</sup>KILARG<sup>F</sup>FILDE<sup>F</sup>SFLRDPWNWLD<sup>F</sup>SIV

Nav1.1 199 TFAYVTEFVDLG-NVSALRTFRVLRAK<sup>T</sup>ISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQ  
 Nav1.2 200 TFAYVTEFVDLG-NVSALRTFRVLRAK<sup>T</sup>ISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQ  
 Nav1.3 199 VMAYVTEFVSLG-NVSALRTFRVLRAK<sup>T</sup>ISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQ  
 Nav1.4 202 MMAYLTEFVDLG-NISALRTFRVLRAK<sup>T</sup>ITVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALVGLQ  
 Nav1.5 202 IMAYTTEFVDLG-NVSALRTFRVLRAK<sup>T</sup>ISVISGLKTIVGALIQSVKKLADVMVLTVFCLSVFALIGLQ  
 Nav1.6 203 MMAYITEFVNLG-NVSALRTFRVLRAK<sup>T</sup>ISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQ  
 Nav1.7 197 VFAYLTEFVNLG-NVSALRTFRVLRAK<sup>T</sup>ISVIPGLKTIVGALIQSVKKLSDVMILTVFCLSVFALIGLQ  
 Nav1.8 198 TLAYVGTALDLR-GISGLRTFRVLRAK<sup>T</sup>ISVIPGLKVIVGALIH<sup>S</sup>VKKLADVTILTIFCLSVFALVGLQ  
 Nav1.9 204 GIAIVSYIPGITIKLLPLRTFRVFRALK<sup>A</sup>ISVVSRLKVIVGALLRSVKKLVNVIILTFFCLSI<sup>F</sup>ALVGLQ

Nav1.1 268 LFMGNLRNKC<sup>I</sup>QWPP---TNASLEE<sup>H</sup>SIE-KNITVNYNGTLINE-----TVFEFDWKS  
 Nav1.2 269 LFMGNLRNKCLOWPP---DNSSFEINITSFFNNSLDGNGTTFNR-----TVSIFNWDE  
 Nav1.3 268 LFMGNLRNKCLOWPP---SDSAFE<sup>T</sup>NTTSYFNGTMDSNGTFVNV-----TMTSFNWKD  
 Nav1.4 271 LFMGNLRQKCVRWPPPFNDTNTTWYSND<sup>T</sup>WYGND<sup>T</sup>WYGNEMWYGND<sup>S</sup>WYANDTWN<sup>S</sup>HASWATNDTFDWD<sup>A</sup>  
 Nav1.5 271 LFMGNLRHKCVR-----NFTALNGTNGSV-----EADGLVWES  
 Nav1.6 272 LFMGNLRNKC<sup>V</sup>VWP-----INFNESYLEN-----GTKGFDWEE  
 Nav1.7 266 LFMGNLKHKC-----FRNSLENNETILESI-----MNTLESEED  
 Nav1.8 267 LFKGNLKNKCVK-----NDMAVNE-----TTNYSSHRK  
 Nav1.9 274 LFMGSLNLKCISR<sup>D</sup>-----CKNISNPEA

Nav1.1 316 ---YIQDSRYHYFLEGFLDALLCGNSSDAGOCPEGYMCVKAGRNPNGYTSFDTFSWAFLSLFR<sup>L</sup>MTQDF  
 Nav1.2 318 ---YIEDKSHFYFLEGQNDALLCGNSSDAGOCPEGYICVKAGRNPNGYTSFDTFSWAFLSLFR<sup>L</sup>MTQDF  
 Nav1.3 317 ---YIGDDSHFYFLDGQKDPLLCGNGSDAGOCPEGYICVKAGRNPNGYTSFDTFSWAFLSLFR<sup>L</sup>MTQDY  
 Nav1.4 340 ---YISDEGNFYFLEGSNDALLCGNSSDAGHCPEGYECIKTGRNPNGYTSYD<sup>T</sup>FSWAFALFR<sup>L</sup>MTQDY  
 Nav1.5 304 LLYLSDPENYLLKNGTSDVLLCGNSSDAGTCPEGYRCLKAGENPDHGYTSFD<sup>S</sup>FAWAFALFR<sup>L</sup>MTQDC  
 Nav1.6 304 ---YINNKTNFYTVPGMLEPLLCGNSSDAGOCPEGYQCMKAGRNPNGYTSFDTFSWAFALFR<sup>L</sup>MTQDY  
 Nav1.7 298 ---F---RKYFYYLEGSKDALLCGFSTDSGOCPEGYTCVKIGRNPNGYTSFDTFSWAFALFR<sup>L</sup>MTQDY  
 Nav1.8 295 PDIIYINKR-----GTSPLLCGNGSDSGHCPDGYICLKTS<sup>D</sup>NPDFNYTSFD<sup>S</sup>FAWAFSLFR<sup>L</sup>MTQDS  
 Nav1.9 296 ---Y---DHCFEKKENSPEFKMCGIWMGNSACSIQY<sup>E</sup>CKHTKINPDYNTNF<sup>D</sup>NFGWSFLAMFR<sup>L</sup>MTQDS

DI

Nav1.1 384 WENLYQLTLRAAGKTYMIFVFLVIFLGSFYLINLILAVVAMAYEEQNQATLEEAEOKEAEFQOMTEQLKK  
 Nav1.2 386 WENLYQLTLRAAGKTYMIFVFLVIFLGSFYLINLILAVVAMAYEEQNQATLEEAEOKEAEFQOMLEQLKK  
 Nav1.3 385 WENLYQLTLRAAGKTYMIFVFLVIFLGSFYLVNLILAVVAMAYEEQNQATLEEAEOKEAEFQOMLEQLKK  
 Nav1.4 408 WENLFQLTLRAAGKTYMIFVVIIFLGSFYLINLILAVVAMAYAEQNEATLAEDKEKEEFQOMLEKFKK  
 Nav1.5 374 WERLYQOTLRSAGKIYMIFFMLVIFLGSFYLVNLILAVVAMAYEEQNQATIAETEEKEKRFQOAMEMLKK  
 Nav1.6 372 WENLYQLTLRAAGKTYMIFVFLVIFVGSFYLVNLILAVVAMAYEEQNQATLEEAEOKEAEFKAMLEQLKK  
 Nav1.7 363 WENLYQOTLRAAGKTYMIFVVIIFLGSFYLINLILAVVAMAYEEQNQANIEEAKQKELEFQOMLRLKK  
 Nav1.8 358 WERLYQOTLRTSGKIYMIFFVLVIFLGSFYLVNLILAVVTMAYEEQNQATTDETEAKEKKFQOALEMLRK  
 Nav1.9 361 WERLYQOTLRTTGLYSVFFFIIVIFLGSFYLINLTLAVVTMAYEEQNKNVAAETEAKEKMFQOAOQLLKE

Nav1.1 454 QQEEAAQQAATATAS----EHSREPSAAGRL---SDSSSEASKLSKSAKERRNRRKKRKQKEQSGGEEKD  
 Nav1.2 456 QQEEAAQAAAAASA----E-SRDFSGAGGIGVFSESSSVASKLSKSEKELKNRRKKKKQKEQSGGEEKN  
 Nav1.3 455 QQEEAAQAVAAASAA----SRDFSGIGGLGELLESEASKLSKSAKERNRRKKRRQREHLEGNNG  
 Nav1.4 478 HQEELEKAKAAQAL-----EGGEADG  
 Nav1.5 444 EHEALTIRGVDTVS-----RSSLMSPLAPVNSHERRSKRRKR---MSSGTEEC  
 Nav1.6 442 QQEEAAQAAAMATSAGTVSEDAIEEEGEEGGGS-PRSSSEISKLSKSAKERRNRRKKRKQKELSEGEEKG  
 Nav1.7 433 EQEEAEATAAAAAE----YTSIRRSRIMGL--SESSSETSKLSKSAKERRNRRKKKNQKKLSGEEKG  
 Nav1.8 428 EQEVLAAALGIDTTS-----LHSHNGSPLTSKNASERRHRIKPR---VSEGSTED  
 Nav1.9 431 EKALVAMGIDRSS-----LTSLETSYFTPKRKLFGNKKRKS-----

Nav1.1 517 E-DEFQKSESEDSIRRKGRFRSIEGNRLTYEKRYSSPHQSLLSIRGSLFSPPRNSRTSLFSFR--GRAKD  
 Nav1.2 520 --DRVRKSESEDSIRRKGRFRSLEGSRLTYEKRFSSPHQSLLSIRGSLFSPPRNSRASLFSFR--GRAKD  
 Nav1.3 519 ERDSFPKSESEDSVKRSSFLFSMDGNRLTSDKKFCSPHQSLLSIRGSLFSPPRNSKTSIFSFR--GRAKD  
 Nav1.4 499 D-----  
 Nav1.5 490 GEDRLPKSDSEDGPR-----AMNHLSLTRGLSRISMKPRSSRGSIPTFR---RRD  
 Nav1.6 511 DPEKVKSESEDMRRKAFRLP--DNRIG--RKFSIMNQSLIPGSPFLSRHNSKSSIFSFRGPGRFRD  
 Nav1.7 496 DAEKLSKSESEDSIRRKSFHLGVEGHRRAHEKRLSTPNQSPLSIRGSLFSARRSSRTSLFSFK--GRGRD  
 Nav1.8 473 --NKSPRSDPYNQRR-----MSFLGLASGKRRASHGVSFHF--SPGRD  
 Nav1.9 468 -----FFLRESGKDQP

Nav1.1 584 VGSENFADDEHSTFEDNESRRDLSFVPRRHGERRN-----SNLSQTSRSSRMLAVFPANGKMHSTVDCN  
 Nav1.2 587 IGSENFADDEHSTFEDNDSRRDLSFVPHRHGERRH-----SNVSQASRASRLPILPMNGKMHSAVDCN  
 Nav1.3 587 VGSENFADDEHSTFEDSESRRDLSFVPHRHGERRN-----SNVSQASMSRMPVGLPANGKMHSTVDCN  
 Nav1.4 499 -----PAHGK-----DCN  
 Nav1.5 537 LGSEADFADDENSTAGESESHHTSLLPWPPLRR-----TSAQGQPSPGTSAPGHALHGKKNSTVDCN  
 Nav1.6 577 PGSENFADDEHSTVEESEGRRDLSFIPIRARERRSSYSGYSGYSQGSRSSRIFPLRRSVKRNSTVDCN  
 Nav1.7 564 IGSETEFADDEHSIFGDNESRRGSLFVPHRPQERRS-----SNISQASRSP--PMLPVNGKMHSAVDCN  
 Nav1.8 514 ISLPEGVTDGDFVP-GDHESHRRGSLLLGGGAGQ-----QGPLPRSLPQPSNPDSRHG-----  
 Nav1.9 480 PGSDSD-----EDCQ

Nav1.1 649 GVVSLVG-GPSVPTSPVGQLLPEVIIDKPATDDNGTTTETEMRKRRSSSFHVSMDLFEDPSQRQRAMSIA  
 Nav1.2 652 GVVSLVG-GPSTLTLS-AGQLLPE-----GTTTETETIRKRRSSSYHVSMDLLEDPTSRQRAMSIA  
 Nav1.3 652 GVVSLVG-GPSALTSPGTQLPPE-----GTTTETETVRKRRLLSSYQISMEMLEDSSGRQRAVSIA  
 Nav1.4 508 GSLDTSQ-G-----EKGAPRQSSSGD  
 Nav1.5 599 GVVSLLGAGDPEATSPGSHLLRPVMLEHPP--DTTTPSEEPGGPQMLTSQAPCVDGFEEPGARQRALSIA  
 Nav1.6 647 GVVSLIG-GPGSHI--GGRLLPE-----ATTEVEIKKKGPGSLLVSMQDLASYGRKDRINSIM  
 Nav1.7 626 GVVSLVD-GRSALMLPNGQLLPEVIIDKATSDDSGTTNOIH-KKRRCSSYLLSEMDLNDPNLRQRAMSRA  
 Nav1.8 565 -----EDEHQPPPTSELAPG-----AVDVSAFDAGQKKTFLSAEYLDPEFRAQRAMSIV  
 Nav1.9 490 KKPQLLE-----QTKRLSQNLSLDHFDEHGDLQRQRALSIA

Nav1.1 718 SILTNT-VEELEESRQKCPPCWYKFSNIFLIWDCSPYWLKVKHVNLVMDPFVDLAITICIVLNTLFMA  
 Nav1.2 709 SILTNT-MEELEESRQKCPPCWYKFSNIFLIWDCCKPWLKVKHVLNLVMDPFVDLAITICIVLNTLFMA  
 Nav1.3 710 SILTNT-MEELEESRQKCPPCWYRFANVFLIWDCCPAWLKVKHVLNLVMDPFVDLAITICIVLNTLFMA  
 Nav1.4 528 SGISDA-MEELEEAHQKCPPWYKCAHKVLWNCCAPWLKFNIIHLVMDPFVDLGITICIVLNTLFMA  
 Nav1.5 667 SVLTSA-LEELEESRHKCPPCWNRLAQRYLIWECCPLWMSIKOGVKLVMDPFDTLITICIVLNTLFMA  
 Nav1.6 702 SVVTNTLVLEELEESRQKCPPCWYKFAFTFLWECHPYWIKLKEIVNLVMDPFVDLAITICIVLNTLFMA  
 Nav1.7 694 SILTNT-VEELEESRQKCPPWYRFHAKFLIWNCSPIYKFKKCIYFIVMDPFVDLAITICIVLNTLFMA  
 Nav1.8 615 SIITSV-LEELEESRQKCPPCLTSLSQKYLWDCCPMWVKLKITLFLGLVDPFAELTITLCIVVNTIFMA  
 Nav1.9 527 SILTIT-MKEQEKSQEPCLPCGENLASKYLVNCCPQWLKVKVLRVTMTDPFTELAITICIIINTVFLA

Nav1.1 787 MEHYPMTDFHNNVLTVGNLVTGIFTAEMFLKIIAMPYFFFQEGWNIFDGGFIVTLSLVEL--GLANVEG  
 Nav1.2 778 MEHYPMTDFQSSVLSVGNLVTGIFTAEMFLKIIAMPYFFFQEGWNIFDGGFIVSLSLMEL--GLANVEG  
 Nav1.3 779 MEHYPMTDFQSSVLTVGNLVFTGIFTAEMVLKIIAMPYFFFQEGWNIFDGGIIVSLSLMEL--GLSNVEG  
 Nav1.4 597 MEHYPMTDFHNDNLTVGNLVTGIFTAEMVLKIIAMPYEFYQGGWNIFDSIIIVTLSLVEL--GLANVQG  
 Nav1.5 736 LEHYNMTSEFEEMLVGNLVTGIFTAEMFKIIALDPYFFFQGGWNIFDSIIIVLSLMEL--GLSRMSN  
 Nav1.6 772 MEHHPMTDFQFHVLAAGNLVFTGIFTAEMFLKIIAMPYFFFQEGWNIFDGGFIVSLSLMEL--SLADVEG  
 Nav1.7 763 MEHHPMTDFEFKNVLAIGNLVTGIFAAEMVLKIIAMPYEFYQGVWNIFDSLIVTLSLVEL--FLADVEG  
 Nav1.8 684 MEHHGMSPTFEAMLQIGNIVFTIFFTAEMVFKIIAFDPYFFFQKKWNIFDCIIVTVSLLEL--GVAKKGS  
 Nav1.9 596 MEHHKMEASFEEKMLNIGNLVFTSIFIAEMCKIIALDPYHYFRRGWNIFDSIVALLSFADVMNGLQKRS

Nav1.1 855 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKDC----V  
 Nav1.2 846 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.3 847 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.4 665 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.5 804 LSVLRSFRLLRVFKLAKSWPTLNTLTIKIIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.6 840 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.7 831 LSVLRSFRLLRVFKLAKSWPTLNMLIKIIGNSVGALGNLTVLAIIVFIFAVVGMQLFGKSYKEC----V  
 Nav1.8 752 LSVLRSFRLLRVFKLAKSWPTLNTLTIKIIIGNSVGALGNLTILAIIVFIFALVGKQLLENYRNN----R  
 Nav1.9 666 WPFLRSFRVLRVFKLAKSWPTLNTLTIKIIIGNSVGALGSLTVVLVIVIFIFSVVGMQLFGGRSFNSQKSPKL

Nav1.1 921 CKIASD---CQ-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQAMCLTVFMMVMVIGNLVVL  
 Nav1.2 912 CKISND---CE-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQTMCLTVFMMVMVIGNLVVL  
 Nav1.3 913 CKINDD---CT-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQTMCLIVFMLVMVIGNLVVL  
 Nav1.4 731 CKIALD---CN-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQAMCLTVFLMVMVIGNLVVL  
 Nav1.5 868 LRDSDS---GL-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--SGQSLCLLVFLVMVIGNLVVL  
 Nav1.6 906 CKINOD---CE-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQAMCLIVFMMVMVIGNLVVL  
 Nav1.7 897 CKINDD---CT-LPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--AGQAMCLIVFMMVMVIGNLVVL  
 Nav1.8 818 KNISAP---HEDWPRWHMNDFFHSLFIVFRVLCGEWETMWDCEV--GQKSICLILFLTVMVGLLVVL  
 Nav1.9 736 CNPTGPTVSC--LRHWHMGDFWHSFLVVFRLCGEWETMWDCEV--GQKSICLILFLTVMVGLLVVL

Nav1.1 985 NLFALALLSSFSADNLAAT-DDDNEMNNLQIAVDRMHKGVAVVKRKIYEFIQQS--FIRKQKILDEIKPL  
 Nav1.2 976 NLFALALLSSFSADNLAAT-DDDNEMNNLQIAVGRMOKGIDFVKRKIREFIQKA--FVRKQKALDEIKPL  
 Nav1.3 977 NLFALALLSSFSADNLAAT-DDDNEMNNLQIAVGRMOKGIDYVKNKMRCEFQKA--FFRKPKVIEIHE--  
 Nav1.4 795 NLFALALLSSFSADSLAAS-DEDDGEMNNLQIAIGRIKLGIGFAKAFLLGLLHGK--ILSPKDIMLSLGEA  
 Nav1.5 932 NLFALALLSSFSADNLTAP-DEDDGEMNNLQIALARIQRLRFVKRTTWDFCCGL--LRQRPQKPAALAAQ  
 Nav1.6 970 NLFALALLSSFSADNLAAT-DDDNEMNNLQISVIRIKKGVAWTKLKVHAFMQAH--F--KQREADEVKPL  
 Nav1.7 961 NLFALALLSSFSADNLTAT-EEDPDANNLQIAVTRIKKGINYVKQTLREFILKA--FSKKPKISREIRQA  
 Nav1.8 883 NLFIALLLNSFSADNLTAP-EDDGEVNNLQVALARIQVFGHRTKOALCSFFSRSCFPPOPKAEPFLVVKL  
 Nav1.9 804 NLFIALLLNSFSNEERNGLLEGEARKTKVQLALDRFRRAFCFVRHTLEHFCHK---WCRKQNLPOQKEVA

Nav1.1 1052 DBLNNKKDSCMSN-----HTA-EIGKDLDYLDKDVNGTTSIGITGSSVEKYIIDESDYMSFINNPSTLVT  
 Nav1.2 1043 EDLNNKKDSCISN-----HTTIEIGKDLNLYLDKDGNGTTSIGI--GSSVEKYVDES DYMSFINNPSTLVT  
 Nav1.3 1041 ---GNKIDSCMSN-----NTGIEISKELNLYLRDNGTTSIGVGTGSSVEKYVIDENDYMSFINNPSTLVT  
 Nav1.4 862 DGAGEAGEAGETA-----PEDEKKEPPEEDLKKNHILNHMGADGPPSSL--ELDHLNFINNPLYTIQ  
 Nav1.5 999 GQLPS---CIATPYSPPPPETEKVPPTRKETRFEEGEQPGQGTGDPPEP-----VC  
 Nav1.6 1035 DELYEKKANCAN-----HTGADIHRNGDFQKNGNGTTSIGI--GSSVEKYIIDE--DHMSFINNPSTLTVR  
 Nav1.7 1028 EDLNTKKENYISN-----HTLAEMSKGHNFLEKD-KISGF--GSSVDKHLMEDSDGQSFIHNPSLTVT  
 Nav1.8 952 PLSSSKAENHIAA-----NTARGSSGGLQAPRGPRD-----EHSDFIANPTVWVS  
 Nav1.9 871 GGCAAQSKDIIPGL-----VMEMKRGS ETQEELGILTSVPKTLGVHRDWTWLA-----

Nav1.1 1115 VPIAVGESDFENLNTE-----DFSSESDFEESKEKLNES-----  
 Nav1.2 1105 VPIAVGESDFENLNTE-----EFSSESDFEESKEKLN-AT-----  
 Nav1.3 1103 VPIAVGESDFENLNTE-----EFSSESDFEESKEKLN-AT-----  
 Nav1.4 924 VPIASEESDLEMPTEE-----ETDFSEPEDSKKPPQPLY-DG-----  
 Nav1.5 1047 VPIAVAESDIDDQED-----EENSLETEESSSKQOESQPVSGGPEAPPDSRTWSQVSATASSAEASA  
 Nav1.6 1096 VPIAVGESDFENLNTE-----DVSSESDFEESKEKLD-DT-----  
 Nav1.7 1089 VPIAPGESDLENMNAE-----ELSSDSSEYSKVRNLN-RS-----  
 Nav1.8 997 VPIAEGESDLDLDDGGEDAQSFQOEVIPKGOQEQLOQVERCG-----DHLTPRSPGTGTSSSEDLAPS  
 Nav1.9 917 -PLAEEEDDVEFSGED-----NAQRITQPEEQQAYELHQENK-----KPTSQRVQSV

Nav1.1 1149 -----SSSEGSTVDIGAPVE---EQPVVEPEETLEPEACFTEGCVQRFKCC  
 Nav1.2 1138 -----SSSEGSTVDIGAPAE--GEQPEVEPEESLEPEACFTEDCVRKFKCC  
 Nav1.3 1136 -----SSSEGSTVDVLPRE--GEQAETPEEDLKPEACFTEGCIKKFPFC  
 Nav1.4 960 -----NSSVCSTADYKPPEEDPEEQAEENPEGE-QPEECFTEACVQRPWCL  
 Nav1.5 1111 SQADWRQQAEPQAPGCGETPEDSCSEGSTADMTNTAELLEQIPDLGQDVK-DPEDCFTEGCVRRCPCC  
 Nav1.6 1129 -----SSSEGSTIDIKPEVE---EVPVEQPEEYLDPDACFTEGCVQRFKCC  
 Nav1.7 1122 -----SSSEGSTVDNPLPGE--GEEAAEPMNSDEPEACFTDGCVWRFSCC  
 Nav1.8 1061 LGETWKDEFVQVPAEGVDDT---SSSEGSTVDCLEPEEILRKIPELADDLE-EPDDCFTEGCIRHCPCC  
 Nav1.9 966 IDMFSEDEPHLTIDPRKKSQVTSILSECSIDL---QDGFGLPEMVPKK--QPERCLPKGFGCCFPCC

Nav1.1 1193 QINVEEGRGKQWNLRRTCFRIVEHNWFETFIVFMILLSSGALAFEDIYIDQRKTIKTMLEYADKVFTYI  
 Nav1.2 1183 QISIEEGKGKWLWNLRRKTCYKIVEHNWFETFIVFMILLSSGALAFEDIYIEQRKTIKTMLEYADKVFTYI  
 Nav1.3 1181 QVSTEEGKGKIWNLRKTCYSIVEHNWFETFIVFMILLSSGALAFEDIYIEQRKTIKTMLEYADKVFTYI  
 Nav1.4 1006 YVDISQGRGKKWTLRRACFKIVEHNWFETFIVFMILLSSGALAFEDIYIEQRRVIRTILEYADKVFTYI  
 Nav1.5 1180 AVDTTQAPGKVVWRLRKTCTHIVEHSWFETFIIFMILLSSGALAFEDIYLEERKTIKVLLEYADKMFTYV  
 Nav1.6 1173 QVNIEEGLGKSWWILRKTCLIVEHNWFETFIIFMILLSSGALAFEDIYIEQRKTIKTMLEYADKVFTYI  
 Nav1.7 1167 QVNIESGKGKIWNIRKTCYKIVEHSWFETFIIFMILLSSGALAFEDIYIERKTIKIILEYADKIFTYI  
 Nav1.8 1127 KLDTTKSPQVGVQVRKTCYRIVEHSWFETFIIFMILLSSGALAFEDIYLDQKPTVKALLEYTDVFTFI  
 Nav1.9 1031 SVDKRKPPWVIWNLRRKTCYQIVKHSWFETFIIFVILLSSGALAFEDVHLENQPKIOELLNCTDIIFTI

Nav1.1 1263 FILEMLLKWVAYGYQTYFTNAWCWDLFLIVDVSLVSLTANALGYSELGAIKSLRTLRLRPLRLALSRFEG  
 Nav1.2 1253 FILEMLLKWVAYGFQVYFTNAWCWDLFLIVDVSLVSLTANALGYSELGAIKSLRTLRLRPLRLALSRFEG  
 Nav1.3 1251 FILEMLLKWVAYGFQTYFTNAWCWDLFLIVDVSLVSLVANALGYSELGAIKSLRTLRLRPLRLALSRFEG  
 Nav1.4 1076 FIMEMLLKWVAYGFKVYFTNAWCWDLFLIVDVSLVSLVANWLGYSGLPIKSLRTLRLRPLRLALSRFEG  
 Nav1.5 1250 FVLEMLLKWVAYGFKYFTNAWCWDLFLIVDVSLVSLVANTLGFAEMGPIKSLRTLRLRPLRLALSRFEG  
 Nav1.6 1243 FILEMLLKWTAYGFVKFFTNWCWDLFLIVAVSLVSLIANALGYSELGAIKSLRTLRLRPLRLALSRFEG  
 Nav1.7 1237 FILEMLLKWIAYGYKTYFTNAWCWDLFLIVDVSLVSLVANTLGYSDLGPIKSLRTLRLRPLRLALSRFEG  
 Nav1.8 1197 FVFEMLLKWVAYGFKYFTNAWCWDLFLIVNISLISLTAKILEYSEVAPIKALRTLRLRPLRLALSRFEG  
 Nav1.9 1101 FILEMVLKWVAFGFKYFTSAWCCLDFIIVIVSVTTLI-----NLMELKSFRTLRLRPLRLALSRFEG

Nav1.1 1333 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYHCINTTTGDRF--DIEDVNNHTDCLKLI  
 Nav1.2 1323 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYHCINYTTGEMF--DVSVVNNYSECKALI  
 Nav1.3 1321 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYHCNMTTGNMF--DISDVNNLSDCQAL-  
 Nav1.4 1146 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYHCINTTTSERF--DISEVNNKSECESLM  
 Nav1.5 1320 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFGRCINQTEGDLPL-NYTIIVNNKSQCESLN  
 Nav1.6 1313 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYHCNETSEIRF--EIEDVNNKTECEKLM  
 Nav1.7 1307 MRVVVNALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFYECINTTDSRF--PASQVPRNSECALM  
 Nav1.8 1267 MRVVVDALLGAIPSIMNVLLVCLIFWLIFIMGVNLFAGKFWRCINYTDGEFSLVPLSIVNNKSQCKIQN  
 Nav1.9 1164 MKVVVNALLGAIPAILNVLLVCLIFWLIFILGVYFFSGKFKCINGTDSVI---NYTIITNKSQCES--

#### DIII

Nav1.1 1401 ERNET-ARWKNVKVNFNDNVGFGYLSLLQVATFKGWMIDIMYAAVDSRNVELQPKYEESLYMYLYFVIFIIF  
 Nav1.2 1391 ESNQT-ARWKNVKVNFNDNVGLGYLSLLQVATFKGWMIDIMYAAVDSRNVELQPKYEDNLYMYLYFVIFIIF  
 Nav1.3 1387 --GKQ-ARWKNVKVNFNDNVGAGYLALLQVATFKGWMIDIMYAAVDSRDVKLPVYEENLYMYLYFVIFIIF  
 Nav1.4 1214 HTGQ--VRWLVNKKVNFNDNVGLGYLSLLQVATFKGWMIDIMYAAVDSREKEEQPYEVNLYMYLYFVIFIIF  
 Nav1.5 1389 LTGE--LYWTKVKVNFNDNVGAGYLALLQVATFKGWMIDIMYAAVDSRGYEEQPQWEYNLYMYIYFVIFIIF  
 Nav1.6 1381 EGNNT-IRWKNVKVNFNDNVGAGYLALLQVATFKGWMIDIMYAAVDSRKPDEQPKYEDNIYMYIYFVIFIIF  
 Nav1.7 1375 NVSQN-VRWKNVKVNFNDNVGLGYLSLLQVATFKGWMIDIMYAAVDSVNDKQPKYEESLYMYIYFVIFIIF  
 Nav1.8 1337 STGS--FFWVNVKNFNDNVAMGYLALLQVATFKGWMIDIMYAAVDSREVNMQPKWEDNVYMYLYFVIFIIF  
 Nav1.9 1228 --GN--FSWINQKNFNDNVGNAYLALLQVATFKGWMIDIIYAAVDSTEKEQQPEFESNSLGYIYFVIFIIF

#### Inact. gate

Nav1.1 1470 GSFFTLNLFIGVIIDNFNQKKKFGGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPGNKFGGMVDFVT  
 Nav1.2 1460 GSFFTLNLFIGVIIDNFNQKKKFGGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPANKFGGMVDFVT  
 Nav1.3 1455 GSFFTLNLFIGVIIDNFNQKKKFGGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPANKFGGMVDFVT  
 Nav1.4 1282 GSFFTLNLFIGVIIDNFNQKKKLGKQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPQNKIQGMVDFVT  
 Nav1.5 1457 GSFFTLNLFIGVIIDNFNQKKKLGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPLNKYQGFIDIVT  
 Nav1.6 1451 GSFFTLNLFIGVIIDNFNQKKKFGGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPLNKIQGFIDIVT  
 Nav1.7 1444 GSFFTLNLFIGVIIDNFNQKKKLGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPGNKIQGCFDLVT  
 Nav1.8 1405 GGFFTLNLFVGVIIIDNFNQKKKLGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPLNKFGGFVDFIVT  
 Nav1.9 1295 GSFFTLNLFIGVIIDNFNQKKKLGQIDFMTEEQKKYYNAMKKLGSKKPQKPIPRPLNKCOGLVDFIVT

Nav1.1 1540 ROVFDISIMILICLNMVTMMVETDDQSEYVTTILSRINLVFIVLFTGECVLKLISLRHYFFTIGWNIFDF  
Nav1.2 1530 KQVFDISIMILICLNMVTMMVETDDQSQEMTNILYWINLVFIVLFTGECVLKLISLRYYYFTIGWNIFDF  
Nav1.3 1525 RQVFDISIMILICLNMVTMMVETDDQGGKYMTLVLSRINLVFIVLFTGECFVLKLVSLRHYFFTIGWNIFDF  
Nav1.4 1352 KQAFDITIMILICLNMVTMMVETDQSQQLKVDILYNIMFIIIFTGECVLKMLALRQYYFTVGWNIFDF  
Nav1.5 1527 KQAFDVTIMFLICLNMVTMMVETDDQSQPEKINILAKINLLFVAIFTGECIVKLAALRHYFTNSWNIFDF  
Nav1.6 1521 QQAFDIVIMMLICLNMVTMMVETDQSQKQENILYWINLVFVIFTCECVLKMFAIRHYFFTIGWNIFDF  
Nav1.7 1514 NQAFDISIMVLICLNMVTMMVEKEGQSQHMTBVLWYNVVFILFTGECVLKLISLRHYFFTIGWNIFDF  
Nav1.8 1475 RQAFDITIMVLICLNMVTMMVETDDQSEEEKTKILGKINQFFVAVFTGECVMKMFALRQYYFTNGWNVDF  
Nav1.9 1365 SQIFDIIIIISLIILNMISMMAESYNQPKAMKSIDHLNWVFVIFTLECLIKIFALRQYYFTNGWNLDFC

Nav1.1 1610 VVILSIVGMFLAEILIEKY--FVSPTLFRVIRLARIGRILRLIKGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.2 1600 VVILSIVGMFLAEILIEKY--FVSPTLFRVIRLARIGRILRLIKGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.3 1595 VVILSIVGMFLAEIMIEKY--FVSPTLFRVIRLARIGRILRLIKGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.4 1422 VVILSIVGLALSOLIQKY--FVSPTLFRVIRLARIGRVLRLIRGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.5 1597 VVILSIVGTVLSOLIIQKY--FFSPTLFRVIRLARIGRILRLIRGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.6 1591 VVILSIVGMFLADIIEKY--FVSPTLFRVIRLARIGRILRLIKGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.7 1584 VVVISIVGMFLADLIETY--FVSPTLFRVIRLARIGRILRLVKGAKGIRTLFALMMSLPALFNIGLLL  
Nav1.8 1545 IVVLSIASLIFSAILKSLQSYFSPTLFRVIRLARIGRILRLIRAAGKIRTLFALMMSLPALFNIGLLL  
Nav1.9 1435 VVLLSIVSTMISTLENQHIFPPPTLFRVIRLARIGRILRLVRAARGIRTLFALMMSLPALFNIGLLL

#### DIV

Nav1.1 1678 FLVMFIYAIFGMSNFAYVKREVGIDDMFNFTFGNSMICLFQITTSAGWDGLLAPILNSKPPDCDPNKNV  
Nav1.2 1668 FLVMFIYAIFGMSNFAYVKREVGIDDMFNFTFGNSMICLFQITTSAGWDGLLAPILNSGPPDCDPDKDH  
Nav1.3 1663 FLVMFIYAIFGMSNFAYVKEAGIDDMFNFTFGNSMICLFQITTSAGWDGLLAPILNSAPPDCDPDTIH  
Nav1.4 1490 FLVMFIYSIFGMSNFAYVKESGIDDMFNFTFGNSIICLFQITTSAGWDGLNPILNSGPPDCDPNLEN  
Nav1.5 1665 FLVMFIYSIFGMANFAYVKEAGIDDMFNFTFGNSMLCLFQITTSAGWDGLLSPILNTGPPYCDPTLPN  
Nav1.6 1659 FLVMFIFYSIFGMSNFAYVKEAGIDDMFNFTFGNSMICLFQITTSAGWDGLLPLIN-RPPDCSLDKHE  
Nav1.7 1652 FLVMFIYAIFGMSNFAYVKEEDGINDMFNFTFGNSMICLFQITTSAGWDGLLAPILNSKPPDCDPKKVH  
Nav1.8 1615 FLVMFIYSIFGMSFPHVRWEAGIDDMFNFTFGNSMLCLFQITTSAGWDGLLSPILNTGPPYCDPNLPN  
Nav1.9 1505 FLIMFIYAILGMNWF SKVNPESGIDDI FNFKT FASSMLCLFQIST SAGWDSLLSPMLRSKES-CNSSSEN

Nav1.1 1748 PGSSVKGDCGNPSVGIFFFVSYIIISFLVVNMVYIAVILENFSVATEESAEPLEDDDFEMFYEVWEKFDP  
Nav1.2 1738 PGSSVKGDCGNPSVGIFFFVSYIIISFLVVNMVYIAVILENFSVATEESAEPLEDDDFEMFYEVWEKFDP  
Nav1.3 1733 PGSSVKGDCGNPSVGIFFFVSYIIISFLVVNMVYIAVILENFSVATEESAEPLEDDDFEMFYEVWEKFDP  
Nav1.4 1560 PGTSVKGDCGNPSIGIFFCSYIIISFLIVNMVYIAIILENFNVATEESSEPLGEDDFEMFYETWEKFDP  
Nav1.5 1735 SNGS-RGDCGSPAVGILFFTTYIIISFLIVNMVYIAIILENFSVATEESTEPLSEDDDFMFYEIWEKFDP  
Nav1.6 1728 PGSGFKGDCGNPSVGIFFFVSYIIISFLIVNMVYIAIILENFSVATEESADPLEDDDFETFYEIWEKFDP  
Nav1.7 1722 PGSSVEGDCGNPSVGIFVFSYIIISFLVVNMVYIAVILENFSVATEESTEPLSEDDDFEMFYEVWEKFDP  
Nav1.8 1685 SNGT-RGDCGSPAVGIFFTTYIIISFLIMNMVYIAVILENFNVATEESTEPLSEDDDFMFYETWEKFDP  
Nav1.9 1573 -----CHLPGIATSYFVSYIIISFLIVNMVYIAVILENFNTATEESEDPLEDDDFDIFYEVWEKFDP

Nav1.1 1818 DATQFMEFEKLSQFAAALPPPLNLPQPNKLQLIAMD LPMVSGDRIHCLDILFAFTKRVLGESGEMDALRI  
Nav1.2 1808 DATQFIEFAKLSDFADALPPPLIAKPNKVQLIAMDLPMVSGDRIHCLDILFAFTKRVLGESGEMDALRI  
Nav1.3 1803 DATQFIEFSKLSDFAAALPPPLIAKPNKVQLIAMDLPMVSGDRIHCLDILFAFTKRVLGESGEMDALRI  
Nav1.4 1630 DATQFIAYSRLSDFVDTLQEPRLIAKPNKIKLITLDLPMVPGDKIHCLDILFALTKEVLGDSGEMDALKQ  
Nav1.5 1804 EATQFIEYSVLSDFADALSEPLRIAKPNQISLINMDLPMVSGDRIHCLDILFAFTKRVLGESGEMDALKI  
Nav1.6 1798 DATQFIEYCKLADFADALHPPLRVKPNITIELIAMDLPMVSGDRIHCLDILFAFTKRVLGDSGELDILRQ  
Nav1.7 1792 DATQFIEFSKLSDFAAALPPPLIAKPNKVQLIAMDLPMVSGDRIHCLDILFAFTKRVLGESGEMDSLRS  
Nav 1.8 1754 EATQFITFSALSDFADTLGSLRIPKPNRNILIQMDLPLVPGDKIHCLDILFAFTKNVLGESGELDSLKA  
Nav1.9 1636 EATQFIKYSALSDFADALPEPLRVAKPNKYQFLVMDLPMVSEDRLHCLDILFAFTARVLGGSDGLDSMKA

Nav1.1 1888 QMEERFMAASNPSKVSYPITTTTLKRKQEEVS AVIIQRAYRRHLLKRTVKQASFTYNKNKIKG--GANLLI  
Nav1.2 1878 QMEERFMAASNPSKVSYPITTTTLKRKQEEVS AIIQRAYRRYLLKQKVKVSSIYKKDKGKE--CDGTPI  
Nav1.3 1873 QMEDRFMAASNPSKVSYPITTTTLKRKQEEVS AIIQRNFRCYLLKQRLKNISSNYNKEAIKG--RIDLPI  
Nav1.4 1700 TMEEFMAANPSKVSYPITTTTLKRKHVEEVC AIKIQRAYRRHLLQRSMKQASYMYRHSHDGS--GDDAPE  
Nav1.5 1874 QMEEFMAANPSKISYPITTTTLRRKHEEVSAMVIQRAFRRHLLQRS LKHASFLFRQQAGSGLSEDAPE  
Nav1.6 1868 QMEERFVASNPSKVSYPITTTTLRRKQEEVS AVVLQRAYRGHLARR-----GFIC  
Nav1.7 1862 QMEERFMSANPSKVSYPITTTTLKRKQEDVSATVIQRAYRRYRLRQNVKNISSIYIKDGD RD--DDLLN  
Nav1.8 1824 NMEEFMATNLSKSSYPITATTLRWKQEDISATVIQKAYRSYVLHRSMALSNTPCVPRAE--AASLPD  
Nav1.9 1706 MMEEFKMEANPLKKLYEPIVTTTLKRKEEERGAAIIQKAFRKYMMKVT-----KGDQGD

Nav1.1 1956 KEDMIIDRI-----NENSIT---EKTDLTMTAACTPPSYDRV-TKPIVEKH-----EQEG---  
 Nav1.2 1946 KEDTLIDKL-----NENSTP---EKTDMPSTTS-PPSYDSV-TKPEKEKF---EKDKSEKEDKG---  
 Nav1.3 1941 KQDMIIDKL-----NGNSTP---EKTDGSSSTTS-PPSYDSV-TKPDKEKF---EKDKPEKESKG---  
 Nav1.4 1768 KEGLLANTMSKMYGHE--NGNSSS---PSPEEKGEAGDAGPTMGLMPISPSDTAW---PPAPPPGQTVR---  
 Nav1.5 1944 REGLIAYVM-----SENFSRPLGPPSSSSISSTSFPPSYDSV-TRATSDNLQVRGSDYSHSEDLADFP  
 Nav1.6 1918 KKTTSNKLK-----NGGTHR---EKKESTPSTAS-LPSYDSV-TKPEKEKQRAEEGRREERAKRQ---  
 Nav1.7 1929 KKDMAFDNV-----NENSSP---EKTDATSSSTTS-PPSYDSV-TKPDKEKY---EQDRTEKEDKG---  
 Nav1.8 1891 -EGFVAFTA-----NENCVL---PDKSETASATSFPPSYESV-TRGLSDRVNMRITSSSIQNEDEA---  
 Nav1.9 1759 QNDLE-----NGPHSP---QTLCNGDLSSFQVAKGKV-----HCD-----

Nav1.1 2001 ---KDEKAKGK  
 Nav1.2 1997 ---KDIRESKK  
 Nav1.3 1992 ---KEVRENQK  
 Nav1.4 1828 ---PGVKESLV  
 Nav1.5 2006 PSPDRDRESIV  
 Nav1.6 1972 ---KEVRESKC  
 Nav1.7 1980 ---KDSKESKK  
 Nav1.8 1946 -TSMELIAPGP  
 Nav1.9 1791 -----