



MVK (NC\_000012.11, GRCh37) - gDNA - 2024-11-25

gtgtactcag agatgaagaa ttgccaaaat acagctcaaa aagtggcatt 110010648  
ttcaaaaaac aatgtaaaca actcaaggac atagctcaaa attaaaatgt 110010698  
gacattacaa gccattcga aggttaattt cctggatctg tgaactaaat 110010748  
taatccatta ttaatccacg gtactctaga ggttctgagg tctgggttga 110010798  
ggtgcaagtt tcaaggaata tgaggaaagc catctttaga aggtgctggt 110010848  
gtatctggga cctggggaat aaactgcttt ggagattggt cacaatctga 110010898  
gtcgagagcc ctctggccc acatgggata tgccctgcc tgcccgatga 110010948  
tagcgggact tcattgggac ttaggcaaag actacctggt ctctggcgcc 110010998  
cacgtggccc acgttgccat ggtgacgtca gaacagcgtg gagacgtcac 110011048  
ctgacggttg ccgcggtgac ctcacggcgg tgtgacgtac ccatggcgac 110011098  
gacaccacga ttcacggcag gtgttcgagt tgcccttccc gccagccact 110011148  
cacctgtccc cgtcttccac gcctgaggg ccgcggtctt ggaaacgggg 110011198  
atacaggagc ctggcggcgc cgaagcacc gcgcaggcca agacggtcc 110011248 c.-464 -463delGCinsTT  
ccaggccaag acggctcccc aggccgaca cagccatgag ccaggctgct 110011298  
tgacgggacc tgaccccgcc aggttcccgt ccagtccgcg gggtgactcc 110011348  
accacagct ggccgcgcca ccgctcaggt ttcaattttt attggttcgc 110011398 c.-325A>T  
agttctcacc ccagggcggg aactcccag ggacttggtt cccattggtt 110011448  
taacggaagg agcggggcgg gaaaaccgt gtcggcttgg ctgcaacacc 110011498 c.-228G>A c.-207T>A  
tattgaccaa tgttcaagcc tattggtaaa ggtactccgg gctcgcgcgc 110011548  
tctgattggc tggcctgaag tacaacgct cctccccttg aggcacgggc 110011598  
**GCTCTGGGTT GTGGGAGTTG GGGAGCTGCT CCGGCTTCGG CGCGGAGGGG** 110011648  
**CGGCGGCCGG GGAGGCGGCG GCGGCGGCAG** gtgagaggcc ggggtcgggc 110011698

ggccgggcg cgcgaggtcc tagaccagc acgacgctga gccaggcgtc 110011748  
 cagcttctgt ggctcagttt acccagctct gagagtcttg ccccgagggg 110011798  
 tcggcgacct caatctgaca gtcgtgattt tgagcttgac aagcaagggg 110011848  
 attccccgct ctgagcctca gtttttctaa gaaatggggg tcacgatagt 110011898  
 acttagctca tagtacacct gaatcttagc gtaaggtaat ctacgtaaag 110011948  
 ccttaagcgg aggataattt tgcgttatgt ataaaagtgt aaattgcaca 110011998  
 cacctataga ccctgcaagc tcctttctag gactctgtcc tgcagaaata 110012048  
 ctcatthaag tgtgcaaac gaggcgtact ggggtgtttc tgcagccttg 110012098  
 tttataattg tgacacattg gaaacagcct aatgtccag caaagagttc 110012148  
 tttctgctcc atgatttcat gtaatttcta cctttaatag tagtagttgt 110012198  
 aaaagctgaa acgaagaaca gagccagtaa taagtagctc tcagtaattg 110012248  
 aatgattagt aggtgccaga caccgccaag tgttccctt gcgttaattt 110012298  
 aaccttccta acatccaccg aggtaggtac ggttatttc tctccatata 110012348  
 acgtgtgggg aaaccgaggt tcttagccat ttaagtgagt taactaagat 110012398  
 gacatcactg gggagtggaa gagctggcat ttgaaccag atctgttggg 110012448  
 tgtgtccagt tgactcctgc attgccttc tggtagctg caagtgtggt 110012498  
 acgtaacta cctttttgt tattatgatg ggcttgaact aggtgttcta 110012548  
 agatctcttc ctgctggtc tgacatctag agatcttgc tcttctcatt 110012598  
 ggctttccct tttagGATTC CCAGGAGCCA TGTGTCAGA AGTCCTACTG 110012648 [del EXON 2](#) [M1L](#) [Met1?](#) [E4ter](#) [V5A](#) [L6fs](#) [V8L](#) [V8M](#)  
[GTGTCGCTC](#) [CGGGAAAGT](#) [CATCCTTCAT](#) [GGAGAAATG](#) [CCGTGGTACA](#) 110012698 [V8E](#) [A10V](#) [P11S](#) [G11R](#) [K13X](#) [K13Q](#) [K13Nfs\\*68](#) [G18R](#) [E19K](#) [H20N](#) [H20P](#) [H20R](#) [H20Q](#) [A21V](#) [V22M](#)  
  
[H24P](#) [G25fs](#)  
[TGGCAAGgta](#) caaagc~~cg~~tt agagccttta aggattgggt accccttctc 110012748 [G25V](#) [G25G](#) [IVS2+2delT](#) [c.78+3A>G](#) [c.78+10C>T](#)  
 cctgatgcta attttgt~~a~~g aaggtaaaag gacaccctga ggcacagctt 110012798 [c.78+61A>G](#)  
 gggagcagat cagagagatc aggttctccc cagccaggca aggaaaagat 110012848  
 ttcttatgcc cactgaaggg attcctgggc ctc~~g~~ctcgggt atgatagcaa 110012898 [c.78+177G>A](#)  
 aaagatgatt ataataaaa gccctgtgag tggaaatgaga tcacctagga 110012948  
 gtgagctttg atgcagaagg aaagaggttt gagaactgag ctccggggca 110012998

ctaagacatt tagaagttgg aaggatgatc tagcaaagga gttgaaaaca 110013048  
tccattatct cattttaccc ttacagctac cccaaggca taccctttta 110013098  
ttatcctatt ttacaaatgt gcaaactgag gcttaggaga gaagtggtaa 110013148  
cttgatccaa gtcctatata ccttggtaga gcttgggtg aacctaagtc 110013198  
tgtctgaaac cacctctgct gcactctgct tttttttttt tttcctgaga 110013248  
cagtcttgct ctgtcaccgg agtgcaatct tgcgatcatg gctcactgca 110013298  
gcctccaacc tcagcctccc aagtagctgg gaccacaggt gtgtaccacc 110013348  
atgccccact aatttttttc ttttattttt ctgtagagac gtggtctgac 110013398  
actacgctgg tctcaaactc ctgggctcaa gtgatcctct tgccttggcc 110013448  
tcccaaagtg ctgggattac agatatgagc caccacacct ggcttctcac 110013498  
tgctattctt tatgttctta tatttctcat tgaaaacatg gtgattatgg 110013548  
ggaagtgatt ccttggatt gagaacctct gaaattttgc aggcagaagg 110013598  
caaagtggat tttaactttt agctgatcga tgggtggctgt tcccaggctt 110013648  
agtgggagag catgcccaagg ttgattagca gtgtctggca agggcatggc 110013698  
taggagtggc ctctgtgctt atgtttgctc tcttcttagc acgtgggtcc 110013748 [c.79-62G>A](#)  
tggccccttt gccactcacc ctcaggctta ttgcttttgt catttattct 110013798  
atagGTA\_GCA CTGGCTGTAT CCTTGAACTT GAGAACATTC CTCGGCTTC 110013848 [del EXON 3](#) [A28T](#) [L29fs](#) [L35S](#) [R36T](#) [L39P](#) [R40W](#) [R40L](#) [L41P](#) [L41R](#)  
AACC\_CACAG CAATGGGAAA GTGGACCTCA GCTTACCCAA CATTGGTATC 110013898 [H44fs](#) [L51F](#) [S52N](#) [I56V](#)  
AAGCGGCCT GGGATGTGGC CAGGCTTCAG TCACTGGACA CAAGCTTTCT 110013948 [W62X\(c.185\)](#) [W62X\(c.186\)](#) [S69T](#)  
GGgtgagtg aaggaggaga aaccagggtg gctaagagcc tacagagagg 110013998 [c.226+2del](#)  
gcagctggcc aggtattctg ggctgtcccc aaggagacca ggggccagct 110014048  
atttcccggg tgttttctac cctgacctca taaaattagc ttcactcatt 110014098  
ttattttttt aaaatttata ggtgtaaaac aatgcattgg atctctgtgg 110014148  
gctgttgagg acagatcatc aaggcctatt gttgagtga aaaaatgcaa 110014198  
aacagcaaac atacgtatct aagtataaat atgtgtataa atgatagaaa 110014248  
aggtctcggg ggcatagaca tcagattggc agtggtgatt agttctcctg 110014298  
ggagagacct agggccagag agtagacaaa gtgacacatg ttttaaataa 110014348  
ggagaatata ttggcatttt gtataattaa aaattgataa aagtaggcca 110014398

ggcacagtgg ctcatgcctg taattccagc actttgggag gccaaggcgg 110014448  
gcggatcatc tgaggtcagg agttcgagac cagcctggcc aacatgtcga 110014498  
aaccatgtct ctactaaaaa tacaaaaatt agctgggtgt ggtggcacac 110014548  
acctgtaatc tcagctactc aggaggctga ggtaggagaa tcgcttgaac 110014598  
ctggggaggca gaggttgacg tgagccaaga ttgcgccatt gcactccagc 110014648  
ctgggggaca gggcaagact ccatctcaaa aaaaaaaaaa aaaatttaat 110014698  
aaaagtacaa gttacctatg cttattattg gaaaatatag tcaatactgg 110014748  
gacattgtaa ttttaaaaaat cacctattat ttcccttctc ctttccctga 110014798  
ccccagtaat gactctaagc attaggcat taatccttct gggtgattht 110014848  
ctgtagattg atagaaagat tgatagagac agggagatat cttggthttht 110014898  
taaccaaaat tgggtcaggc catataaacc attcagaagt actgathttht 110014948  
tctttgtgtg tcacgtgtgt gtgctgattt ttgacagcac tgtgaagatt 110014998  
tcatccactc ataagcaggc cagctthttht catcagtgga gtcccctgta 110015048  
cctgccccag agctgacgtg tgthtthtctc gttgtcagtt tactgtctgc 110015098  
tccctgggct gaatgaagcc ttgctcttht gaacagtgtt tctcagccag 110015148  
gatggggtaa atgagaatct ttttgggttht tttccttaca ctgcacctga 110015198  
acccttgaca cctgctthcc attccccatg agaaaccaca gtcactccca 110015248  
tatgccgtat ggggatggag gaagagttga aaattctcat ttcacttgtt 110015298  
gagatggggt ctcaactgtg tgcccaggct ggtctggaac tcctgggctc 110015348  
aagcagthttht ccactthtcc accttgggct cccaaagtgc tggggttaca 110015398  
ggtgagagcc actgtgcca gccaaaatcc tcattthttaga gcagcccttht 110015448  
ttaacttcat catatcttgg aatcaccag gagthtthttht tgatggtggt 110015498  
ggtggtthttht tthaaccaat acagatggat gggctcctgg ctccgcccct 110015548  
ctcttattgg gagttggtag tgggtgtagg agthtthttht ggggttctc 110015598  
tgggtgattc tggggacacc tcagttaaaa gccactcctt tggagcgtgc 110015648  
atctgaaaac aaccagccag agcacatgga acttgcttht caaggtgcac 110015698  
agggccacc agccagacca gaaatgtctc ctgagaacca gctgcaactt 110015748  
gtgtatgtca gtagcttggg gtggaagcag ccaggtatgg gggaacatgt 110015798

ctcagaccac tccaactccc tcagtgaacc tggggcaggt cacttcatcc 110015848  
tctgggcctc ggagcagaga catgtttcct gactgagggc tgccatgagg 110015898  
atccgacgac actggaggca ggcattaggg gtgcgacaca gagtgcatta 110015948  
tgtagggaag ggcttgtag ttttgagct ctgggagaca tactatcttc 110015998  
taggttgcaa agatctacca tctttctttc agtgccttt tgctccctcc 110016048  
tgatagtaat aaacattgaa cttttttttt ttttttaaga ggcagggtct 110016098  
tactatgttg cccaggctgg tcccaaattc ctgggctcaa gtgttcttct 110016148  
gccttagcct cccgagtagc tgggaatata agcacatacc actgcaccgt 110016198  
gctactacag tgaacactta ttgggcactt acgtgtgcca ggcactaagt 110016248  
gtgttcacat atgttagcac tcttagaatt cgccagcatt ccctggaagt 110016298  
agggtggtgg attcatcccc attgtacaga tctgaaaatt aaagttcaga 110016348  
ggtcaagtgg ctcaggttac acttgttggt gacactgaaa ggattcagac 110016398  
ccaggtttct cctagcccca aagtccaggc tcttaacagc tgttccatct 110016448  
cgattacaaa gctctgaaat acctgggttc tcaatgatgc catgacttgg 110016498  
ccatttgagt atatcattaa tccattcaac acacatttac ccagtactta 110016548  
accagtgcc gaagtttctc aacacacgca tgcccaattc catttcccag 110016598  
tcccttgaga atgtgacctg aggctcagcg agtgatttgt aaaggtgagc 110016648  
tgccagaaa ggctctgcct tctcagtgc tcagaggaaa gtggcccagg 110016698  
ttcctgtaca tccctgggaa caacctgcct caccttcccc ttctgcccag 110016748  
gcaccgcctc gcatttacac tgtcctattc ctgatgatta tcttttgag 110016798  
gagggaaata ttttgggggt taacttaaca ctcttttgat tttggtttta 110016848  
tacaatggaa ggtgaaacct aggcccttgt gcgattgagc cagcattctc 110016898  
tgtgtgtgtc tgtgtgtctg tgtgtgtttg ttttaagact acaatttttt 110016948  
tttttttttt ttttgagaca gggctcact ctgttatgca gcctggagta 110016998  
cagtgggtgcg accacagctc actgtttctt caacctcctg ggctcaagcg 110017048  
atcctcctgc ctcagccttc tgagtagctg ggaccacagg tgtgcgccac 110017098  
catgcctggc tagtttttgt actttctgta gagttgggggt ttcgcatgt 110017148  
tacctaggct ggtctcaaac tcctaggcac aagtgatctg cccaccttgg 110017198

cctcccaaag tactgggggtt acaggcataa ggcctgcac ccaaccttaa 110017248  
aactactggt aattagcact tactacatgc caggtgctgt gctaaaaagt 110017298  
ttacaccctt tatttaactt tacgttcctg acaaccgtaa gaagaggcac 110017348  
tgttgttatc cctgttttac caaggtggga aacaggttca gggagggttaa 110017398  
gtcacacggc cagtaaattg cacagttggg actcaaacc aagtctgcct 110017448  
aaagccaatg aacagacttg ggtgtgggggt tcagaccata aattcgtgtc 110017498  
catccatggt ccaattccag tgactagtgc attttctgtg ttctgttgtt 110017548  
tataaagcac caaagtcctt ctcaccact tgtgtttgct tgtttgcctg 110017598  
tggaacagAG CAAGGTGATG TCACAACACC CACCTCAGAG CAAGTGGAGA 110017648 [c.227-3C>G](#) [c.227-1G>A](#) [L126Rfs\\*2](#) [D79N](#) [D79Y](#) [V80I](#) [F83C](#) [S85\\*](#)  
AGCTAAAGGA GGTTCAGGC TTGCCTGACG ACTGTGCTGT CACCGAGCGC 110017698 [E93fs](#) [L97fs](#) [D100N](#)  
CTGGCTGTGC TGGCCTTTCT TTA~~CTTA~~TAC CTGTCCATCT GCCGGAAGCA 110017748 [V109L](#) [Y114fs](#) [Y116H](#) [L117P](#) [I119M](#)  
GAGgtgtgtg cgtggtctgg ggaaggagtc cagattcagc ctcccatgga 110017798 [R124W](#) [c.371+2T>A](#) [c.371+8C>T](#)  
gaaaaaggaa gagtttctgt cattgctgct ggagaatgca catgctctct 110017848 [c.371+49A>G](#)  
tctagagcag cagccattgg ctgtcctcat catgtgccag gcaccctgcc 110017898  
aggcacggta tatatggcgt gccttttttt tgagacaggg tctctgttgc 110017948  
tcaggctgga acgcagtgg atgatctcag ctgactccag cctcgacctc 110017998  
ccaggctcaa gtgatcctt cacctcagcc ttccaagtag ctgggactac 110018048  
agggtgcgcac caccatgcct ggctaaattt ttaaattttt gtagagatgg 110018098  
agtctcactg tgttgccag gctggtctca aactcctggg ctcatgtgat 110018148  
ccaactgcct tggcctctga aagtgctggg attagaggca tgagcgactg 110018198  
caccggccc cagcctctct gttgttgttt ttgttgtttt tgtttttgtc 110018248  
cagaacccaa agggaaaaaa acctcaaggg ggcagccctt cccttgagca 110018298  
gcagatgctg gctcagtggc caggctctat gctgaggaca cattcgaaa 110018348  
cggcctgata cttgccgtcc gaagcagaat ttcaacttga gagaggcatg 110018398  
tccccttaag tgggtgaggg gcattccaga atcttccagg ctgggtgggg 110018448  
tgggtacgtg gaatttgaag acgcacatta ttacaatttt tctatttggg 110018498  
aaatgggaaa agcacttctg gaaattacc aaacatgaag tttgacagtt 110018548  
cttgcttggg gaaaatacat gtaagatgta gcgattcggg cttttctggt 110018598

gatcaaaagc agacccgtgt tacacatggt tggggagcac cgtctggcgg 110018648  
gagaggcccc ggtgaacaca caatcctagt gtgcggtggt gaggcagcgg 110018698  
tggagggagg gagggcaggc gggggtccta gaaggggagc caggagggtc 110018748  
tttgtgggca gctacggaaa gtgtcacagt ggaagcgaca tttgataagg 110018798  
ccttgagaga tgggtagggg tttctctgtg ggataaggag gtgcacggct 110018848  
attgcaggca gaggggcccag cctgtgctca gagcaggccc acagaaaagc 110018898  
ctagcatgtg ggcacaggaa ggaggtggga gaaaggggtt gacagcttgc 110018948  
caggtgcttc tgggaagggc tctggttgaa tgaccaggg atttaaatga 110018998  
acttgatacc tgttttctag ttgtctgatt cagcatgagt tcctgatggt 110019048  
caatagggat acatttgggg tcaggaattc tccccagtt gagaaaactg 110019098  
gaccagatgc ttggagtcag gcctgggcct ggcccctggt tcagtgtctg 110019148  
caccctactg ccctgcggga ggtcacggtt tcacaccctg gtgtgtttca 110019198 [c.372-6T>C](#) [c.372-3C>T](#)  
gGGCCCTGCC GAGCCTGGAT ATCGTAGTGT GGTCCGAGCT GCCCCC~~CGG~~ 110019248 [del EXON 5](#) [P127L](#) [S128Pfs\\*](#) [D130G](#) [V132I](#) [V132Efs\\*25](#) [W134X](#) [S135L](#) [S135S](#) [G140fs](#)  
[A141fs \(dupG\)](#) [A141fs \(delG\)](#)  
GCGGGCTTGG GCTCCAGCGC CGCCTACTCG GTGTGTCTGG CAGCAGCCCT 110019298 [G142D](#) [G144V](#) [S146N](#) [A147T](#) [A147A](#) [A148T](#) [447](#) [448insGCCTAC](#) [A148V](#) [Y149X](#) [S150L](#) [C152fs](#)  
[S150S](#) [V151M](#) [C152Y](#)  
CCTGACTGTG TCGGAGGAGA TCCCAAACC GC~~TGA~~AGGAC GGGGATTGCG 110019348 [T159fs](#) [C161RfsX25](#) [C161R](#) [I164fs](#) [N166K](#) [P165L](#) [P167L](#) [L168fs](#) [D170D](#) [G171R](#) [D172D](#)  
[C173R](#) [C173Y](#)  
TCAACAGta accatggtcc ttacctggcc agtgtccctc ccgcacggca 110019398  
ggacagggac gtggcttctc tactgagac ctcaccacct ccctgtgagg 110019448  
tgagaggtgt catagtggcc attttaacat gaggaagctg agccccgaga 110019498  
ggtcaaatgg ctggcccagg gccacacagc tagtgctggc agagtgggat 110019548  
ttgaactcag agtctgagct tttctctcct gctctccacc acctctgctc 110019598  
acccccatct tggctctggt ggtttcaagc gcccatggta tggtagaaag 110019648  
agctggagtc cagatctaga gggcagcagg ttagatgaac cctccacct 110019698  
ctgcattgac tcaggctagg acagtgttct cctctgtatg gtaatgacag 110019748  
tgccctaggg gtgattgtcc agttttacca catggttatg aaagaaacta 110019798  
agagtttgcg gagaaatcca cattaggggg tgtgccatt agactagggc 110019848

atctctcctc ctacggggcc gtctccacgg agggcgtgtc acctctctgc 110019898  
gttcctattg accacgtgag tcagtgaggc ctgtccagac aggcttgacc 110019948  
acagaccatt tctatcatta ggagaatggt ccttgagaaa ccacccagtg 110019998  
cgcagagggt acgcagtttg tcccaggacc aggagtgtg gatgaggccc 110020048  
ccaaatgcag agctctgtcc tcttcctggg cttgtttttg ttttgttttg 110020098  
ttttgttttc tgagcttggg tttttgtttt gtttgtttgt ttgtttgttt 110020148  
gtttgttttt tgagatggag tctcgtctctg tcaccaggc tggagtgcag 110020198  
tgggtgtgatc ttggctcact gcaacctctg cctccagggt caagtgattt 110020248  
tccacggggc aaaggactgg ccctgtcttt caaaagggtg aggggtgactg 110020298  
tgtgtgtgca cttgcatgtg tgtgtgttct tatgctgctt ctaaccattt 110020348  
ctcccacctt cccctgaagg ccagtcattc cttctcagaa cccttaggga 110020398  
gagtagacct cccaccccac cccaccccac cacaccccac ccatcatgtg 110020448  
tttctgagtc ggaaaggact ggagcccagt ctcctttgaa gactcaaadc 110020498  
tgagccccct aaaaaacaaa ctgtgtagag caggaggaag actcacattt 110020548  
gttgagaggg ccaggccctg ggctaggtca gctgcctgag ttaccttccc 110020598  
ccgcctccat cactcacttc atcccaggca cgctgccacc tgttggtccc 110020648  
tggaaggggc cagccagctc tgggtgtggtt ccagtgtgtc acaagtgggtg 110020698  
tgtctggaat gcacccaca cacacacctt gccagctgg ctccccttgt 110020748  
ccttcaggca ccaccacccc gcccagccc ccagcaattc agccatcgt 110020798  
actcttacag aaacacctgg tttgtttttg tttttgtttt ttaactata 110020848  
ttatcattta ttaaagttaa ttaggtagct ctggatcctt ggtctgtttt 110020898  
ttttttcttt tattattatt atactttaag ttttagggta catgtgcaca 110020948  
atgtgcagggt tagttacata tgtatacatg tgccatgctg gtgtgtgtgca 110020998  
cccattagct catcatttag cattaggtat atctcctaag gctatccctc 110021048  
ccctctcccc ccatcccacc acagtcccca gagtgtgatg ttccccttcc 110021098  
tgtgtccatg tgttctcatt gttcaattcc cacctatgag tgagaatatg 110021148  
cgggtgtttg tttttgttc ttgcgatagt ttactgagaa tgatgatttc 110021198  
caatttcac catgtcccta caaaggacat gaactcatca ttttttatgg 110021248



ctgcatagtg ttccatggtg tatatgtgcc acattttctt aatccagtct 110021298  
atcattgttg gacatttggg tgggttccaa gtctttgcta ttgtgaatag 110021348  
tgctgcaata aacacacgtg tgcatgtgtc tttatagcag catgatttat 110021398  
agtcctttgg gtatataccc agtaatggga tggctgggtc aaatggtatt 110021448  
tctagttcta catccctgag gaatcgccac actgacttcc acaatggttg 110021498  
aactagttta cagtcccacc aacagtgtaa aagtgttcct atttctccac 110021548  
atcctctcca gcacctgttg agaaacacct gctttgaagt cacatattgc 110021598  
agtgtcatgg atttgtttgt atttgaatac tgatcgcttt ctgaccttca 110021648  
ctttctccat tagactctaa gctccaagaa gtcagggacc ttgtctgttt 110021698  
tgctccctac taggagctta gtcacaggca catagcagtt gctcaataaa 110021748  
tgctgaatga ataagtgagt gtatcttggt ggcaccatta agttagtagc 110021798  
taagagcttg ggctccaagt cagcagatgt ggtcctgacc cagcagtgag 110021848  
tagcactgtg atctccagga tgctgtttga cccatccaag cctcagtttc 110021898  
cgtttctgta agaaacagga taattattat accttccctg tagggcacia 110021948  
ttgggaggat tatgaacct ttctcaatgg tccatttgag aaagcattta 110021998  
gcacaatggt tggcacatgc taatcaatag tatgttaact gatgttaact 110022048  
cattattaat catagtctca cagctaccat gtgagttgcc aagtccgtaa 110022098  
aaatccttat ttggcagatg aagaaagaga ctgagagcag gtaattgact 110022148  
tgctcagggc tcacagcaag taagtgattg aaccaggccc ccaggcgctg 110022198  
tgaccccaga cggcctatth tgaggggagc acatcctatc tcctgggcat 110022248  
tacacaaagc acttgtgtat tttttccatc tcaataticc cagtgagata 110022298  
gacactatta tccctgtttt atggatgaga aaacagggtt taaggtgaag 110022348  
cagttgctca cagatgcccga gtgagtcagt gataggatgg gctccaaaaa 110022398  
gggctcactg gctgggcacg gtggctcacg cctgtaatcc cagcactttg 110022448  
ggaggctgag gtaggcagat cgcttcaggt caggagtctg agatcagcct 110022498  
ggccaacaca gcaaaaacc atcttacta aaaatacaaa cattagccag 110022548  
gcgtggtggc aggcgcctgt aatcccagct actcgggagg ctgaggtagg 110022598  
agaatcgctt gaaccagga ggcagaggtt gcagtgagct gagatcgtgc 110022648

cacagcactc cagcctgggg gacaagagcg aaactccatc tcaaaaaaac 110022698  
aaaactaggc tgactgctta ctccataact ctgccactga gccacatcat 110022748  
tctcagaggt cagaaaacca cctttagctt ctgctgtttc atgaggaagg 110022798  
gaatctgcag aaaggaaaca aaagctgaga gaaaagagtg ggggaagtggg 110022848  
gttgatcatt ttgtcttggt ccatactcat gtgttttggg tctgttcatt 110022898  
taaactgttt gtgagccac acctggtcca tggaaggcag tgaggccacg 110022948  
tgcttgggag agatccagac atggttggga cgagcctggc ccctccaggg 110022998  
gtctctgggg ctctgggat ttgaattcat aatgatcgtg ctttggatct 110023048  
acttgcaggg ccctgggaaa gagtcacacc tctgcccgtt cttcttaaag 110023098  
gcaggcttgg ttcagggtgtg gacgcttatg cagaggtctg ttatagtggc 110023148  
agttgccacc tgctgcttgt ggacaccttg ccatcattag acacacatgc 110023198  
agctagcctc tgaggagggg gggggttcca attctccagg gaaggataat 110023248  
gaggctcaga gaggttagat aacaggccca gagtcactca gctagtaaga 110023298  
ggcaatgcag gggccagggt cggtggctca tgcctgtaat ccagcactt 110023348  
tgggaggcca aagcgggctg tcgagaccag cctgtccaat atggtgaaac 110023398  
cccgtctcta ctaaaaaata caaaaattag ctgggctgtc tgggtgtcac 110023448  
ctgttgtccc agctgctcgg gaggctgagg caggagaatt gcttgaacct 110023498  
gggagaaagt gagctgagat tgcaccactg cactccagcc tgggtgacag 110023548  
agtgagactc cgtctcaaaa aaaaagaaaa aaaaagaggc aaagtaggac 110023598  
cacgggagtc caaagcccag gctgttttga ctgcgccagg tgggcttcag 110023648  
aggaaggggc gcacacttgg cacgctccgt agctggagag gttcagagtg 110023698  
gacttgttct ttctgagctc aagggcccaa gctcctatgc cccttggcct 110023748  
gcccagcaca gcccagggtg acccctcccc agcccactc ctactgcca 110023798  
cagtaaagat gaacatctgt gtcttcagGT GGACCAAGGA GGATTTGGAG 110023848 [E180K](#) [L182F](#)  
[CTAATTAACA](#) [AGTGGGCCTT](#) [CCAAGGGAG](#) [AGAATGATTC](#) [ACGGGAACCC](#) 110023898 [W188X](#) [A189V](#) [Q190fs](#) [G192E](#) [H197H](#)  
[CTCCGGAGTG](#) [GACAATGCTG](#) [TCAGCACCTG](#) [GGgtagggtg](#) ggcctcaggt 110023948 [S201F](#) [G202R](#) [G202Q](#) [V203fs](#) [V203A](#) [D204E](#) [N205D](#) [T209A](#) [c.631+3A>C](#)  
ttatattatt gttgttattt taaaaattct tattacaatg gtaggtgccc 110023998  
aagagtctgt gctggtttgg gaggaatcga atcaatggat tctggaaaaa 110024048

atagcatttt cctatthttgg ggggaatggg gagaaatcct ggggccctgt 110024098  
ctcacacccc ctgaatcaga atctccgggg gtggaactgg ggcttgggaa 110024148  
gctgcagctt ccacgagctc cccaagagag ttgtaggttc aggatgcaga 110024198  
gccgttgccg tggagtttgc acaccatcca ggtggcctcc cctctggcaa 110024248  
gaactcttgc ttacagggcc cagatgctgt gtcctggggc ccaccttcac 110024298  
catgtggctt gtcgggggaa gctggacagt ctggaggag ggggaccag 110024348  
gaatccaagg cctggcaaga gcttcctggt ggggcttcgg ggaccttttg 110024398  
ccctcctgca ccttttgtaa ctgaagctgg gctgactcat tacttagcct 110024448  
ctttcctgaa tggggcaaaa tgaacccaac ccaaagttaa acctctctcc 110024498 [c.632-71A>G](#)  
caagtagcac agatatgta gcttttccca cagctctgac ccactggttt 110024548 [c.632-18A>G](#)  
ttctctttag [GAGGAGCCCT](#) [CCGATACCA](#)T [CAAGGGAAGA](#) [TTTCATCCT](#)T 110024598 [G211A](#) [G211E](#) [G212R](#) [G211del](#) [L214Hfs\\*63](#) [R215X](#) [R215G](#) [R215Q](#) [H217P](#) [Q218X](#) [G219W](#) [L224\\*](#)  
[AAAGAG](#)gtaa cctgggggtg gagcagcaca ttcagccatg gctgcattga 110024648 [R226K](#)  
tgtgtgcagg gggcagagct ctgcaccttt gggaaagtacc ataggaggca 110024698  
ggtgtccctg gctcttcac cccaatgtg gccctcacag tgcactagct 110024748  
gcaaggaagc aggggtggtg ggaagacct gctctctcct tctccccttc 110024798  
agctcttaaa ttgcagagat atcagaaagg gaaagtcatg catggctgtg 110024848  
cccgtagact ctcagctgct cattcattca ttctgtatt tgcttagtaa 110024898  
acaagaatcc attacttctt gtgttcccgat tgatgctgca ctggggcgta 110024948  
ggaatggaga gatgaagctt ggttacagtt tccaaggact ctcatgctgc 110024998  
ttgtgggggt ggggccagac acacacaaaa gccgccacag gacaatgtga 110025048  
gagtcacat gatggaggca cacagggcag aggcaggatg gaagcgggag 110025098  
ggaggcttgg gaggggcttg gagcagaagt gacatttggg gactctcagc 110025148  
ctgttttatg tttctgtgtc cctcccgtg gaatcattgg aatcacaaac 110025198  
gtgcatgtgc gatttcagca ttctctgttc tgtttgcgat ttcagcatcc 110025248  
tctgttctgt ttgcaccac ggcagaattg ttgggtgcct ggaatgaaac 110025298  
gcatggcaga ggggagccag gtgccttttt gactgttccc taagcccttg 110025348  
atcaagttgt ggggtggtgt ttgtcccagg gcactttgcc acctccatgg 110025398  
gccttttcgc atcagtaagg gtccctggggc tctctcctct ttactcaggg 110025448

cggctctcat ggatgagtgg caggtcctgg cctgcagccc ccaccagctg 110025498  
ggccactcca ttagtggctc agtaacctgg cctgccacag cgccacacct 110025548  
gggcccccg ctagttctct gggatctttc tgtcccagct cagtcatgcc 110025598  
tccctttcca aggctgtacg tcagagttgt cagcattggc actattgaga 110025648  
tttggggctg ggttattctt tgtggggggg ctgccctgtg cattgtagcc 110025698  
atccccagcc cctaccact agatgccagt agcaccctca gcgtggcaat 110025748  
caaaaacatc tccagacatt gcttagtgtc ccttgggagg cagaatcacc 110025798  
cttgccgccc acctttgcac tccgcagaag ccagtaggag cgtggaacag 110025848  
cttcctcggg ttgctccagc agtcgtcagg agagcctcgg gtgccgaggt 110025898  
gaagctggtc tgccaccgcc ccggatccat gtggaaccag agctggatca 110025948  
tgtgggggag tctcaaatgc ccgggccccg gcctgtcttc aggagcccac 110025998  
ggtctgatgg ggaaggcggc cactggaatc gtcagagaga agacacctga 110026048  
agggttgtga agctgctgtg ggtgacagt acaggcgtct tagatctggc 110026098  
tgcgagcctg gggaatcatt catggaagt gtggcatttc attccttcag 110026148  
tgtctcctga gagccacttg tggcctaagc actggactag gccctggagc 110026198  
tagaaaactg atgaagacgt gggctgggca ccgagtgtag ggtctactgg 110026248  
gggcatcagg agatgaatga ggaggtttcc aaggggggcg ggcaggggaa 110026298  
cggccagggg aatggccagg cgttgctggg gtgctgggcg gaggcgctgg 110026348  
gtccacaggc ctaggtttga gtccagctct cccacttgcc agctggtgcc 110026398  
ctcaggtgag tcacttctcc cagacctcca gctccttggt tacttagggg 110026448  
gatcttgaac atacaatcag aagcgggtggc tctgaagtgc ttacctgttt 110026498  
gctggccgag ttcattcatc ctttccacaa gtatcattaa gcacctactg 110026548  
cgtgctgagt actggggcct ccgcagggaa caaaacaaag ccccgctcc 110026598  
gtggaactca tactttgttg ggagaggaga aaaaatcagt tgtctgtgag 110026648  
agcatatcag gcagtcttaa gcaccttag gaaacaaggc agggtcagag 110026698  
gctacaaaga gaaggagggg tccgattgga tgggggttcg ggggctgctg 110026748  
gtgaaggaac attgagcaga aacctgaata agtcacgccg ctatggggcg 110026798  
gggctggtcc ctggcagagg aagcgcgggt caaaggtcct gagacgagca 110026848

cgctgcctgc cgtgtgacac agtagctggg aggtcagagt ggctgagtgg 110026898  
agtgagcagc ctggggagcg aggagagaag aagaggctgg ggcaagtggcc 110026948  
aagccccgat cacaggagcg cttaccaggc ttacccccctg cgtggtggcc 110026998  
gctggatggg tatgagccct ggatctgggtg gggctgggtga caggcctgtc 110027048  
tgcaagaggac ttgtctaaga aagatgaaga tgcaacaccc aaactcctcc 110027098  
cgcctggcta gatgggagca tggagcaaac caacctttgc tgcctgctgt 110027148  
ggggtgccac gggagcagat ggcggcttca cagagaagct gggggccaga 110027198  
ctccacgtta atcccatgga tggcttaagg agcttcccc caccaacat 110027248  
gcgtggtgcc tctctgtaaa gaaaaaatgc attgtttgtg aagtggatca 110027298  
agatgcggcc tcccagaacg ctgccctttt gaggaatggc ttgtcttaga 110027348  
agggaagaga aaagccaaat agaatgttca tcttttgtaa agttaaaaaa 110027398  
aaaaaaaaagc cagcctccaa ggctgagaat cgatattaat tcatgggct 110027448  
tatgggcagt gagataaagc aggtttctgg cagccctttc cagccctatt 110027498  
ggattttaca atcttgaact gtgaagacag cgaataaagg tatcaagggc 110027548  
tctgcccgtc tccagctgtc tcggggcaga gctcatccaa atccccacc 110027598  
ttccatccca gcctgcagcc ctctgaaagg caggttggat ggcaagaaat 110027648  
gtcagcttga gccctcgaag acggctcact acaaggacag ttgggattgt 110027698  
ggcttttagga gggatttatg cagctcctct ggggcagggtg aggaccacgg 110027748  
ggctatgcta gagagtcagc tcaacgtggc tgcctgggac acgtctatgt 110027798  
gccagagggc agccaagggg atgactgact ctacatctgg ttttagacca 110027848  
gggctgctcg tccgggcacc attgaggtag ggcaagaatg ggctcagcgt 110027898  
gctggggacc atcctcctct gcaaccctgc cctccctgca tttacgagcc 110027948  
cgtgcgtggc actgcccgca ccagctagcc tgggcatctt ccctctgtgt 110027998  
gatccatttc agggcctgtt gcttggctct tctaaaactc cagcttcgtg 110028048  
ggggtgacct acacaagtga accttcgccc cctccttgta ctctgctata 110028098  
gccactttga atttctcact ggatgactgt gccgggttcc gccacctcca 110028148  
ggctcacaca ggctgctcca actgccagaa atcctcacc ttctagcttt 110028198  
gcttgggtggc ttcttaccct tcctcagttc tcagtgcca cgtcatgcca 110028248

gaaaaacctt ctcgccctt ctcccctatc ccctctctgg ccccggcccc 110028298  
aaggccacgc tgtgcctagc atgtttagg tcccagttga agttgaatga 110028348  
ataaatgagt gaaaagccaa gggagaatgg ccacccaacc agtgcctggg 110028398  
atggaggcgc agctgtggcc agcagcagaa gccccatgct cccccaatcc 110028448  
agtgtcacct cttgtgcctc ctttcttctt ccgtatcagg gtgggcggct 110028498 [c.678-78delT](#)  
tcccggactg ctcccagtc tgtcccagct cctccatctt gagttcagtg 110028548  
tggacctgcc tcctcttcac cctgcagGTC GCCAGCTCTC CAGATCCTGC 110028598 [del Exon 8 c.678-1G>A P228L P228P L230P L234P](#)  
[TGACCAACAC CAAAGTCCCT CGCAATACCA GGGCCCTTGT GGCTGGCGTC](#) 110028648 [T237S T237N R241C T243I L246P V247fs V250I V250F](#)  
[AGAAACAGGC TGCICAAGgt](#) gactcttgtt cccttcttgg gcaggtttca 110028698 [N252S L255P c.768+23G>C](#)  
ggaaggccag gacacaatta catctggatt ttcgaggtct ccctctggct 110028748 [r.768 769ins\[768+1 768+68\]](#)  
gatgggttat agggggtgtg gtgggtgggtg ggggccctta gggaggtggt 110028798  
tttggcagaa aagaaggtac cgtccgtgcc cgtagcctgg ccaggaaaat 110028848  
gacagtggtc gggctcgta gacacactga ctttgagct gggaaaggcaa 110028898  
aaaaacaggc tcagaagaga ggtggtttcc ccagaggatg ggcacgggct 110028948 [c.769-103C>T c.769-97](#)  
gtgtgaacac ctctccctc caccctactg ctggggcagc tgcctgcat 110028998  
ctgcctgccc ccaggcctca ccagccgttc cttctttttt tctccagTTC 110029048 [c.769-38 C>T c.769-7T>G c.769-7 769-6dupT F257I](#)  
[CCAGAGATCG TGGCCCCCT CCAGACCTCA ATAGATGCCA TCCTCCCTGGA](#) 110029098 [I260I V261A A262P P263P L264F c.790del L265P L265R I268T I268K D269H S272P](#)  
[S272F S272Fdelins](#)  
[GTGTGAGCGC GTGCTGGGAG AGATGGGGGA AGCCCCAGCC CCGGAGCAGT](#) 110029148 [R277C R277G R277H R277R V278A L279P M282T E284Kfs\\*17 c.853insA P286L P288L](#)  
[Q290H Y291D](#)  
[ACCTCGTGCT GGAA](#)gtaaga gcctgtctgc aggaaccggg gttactgagt 110029198 [V293M c.885+24G>A](#)  
ccacaccact gtccaaggca gtggctctgc aatctggctg tgctcagaat 110029248  
ccccgggaag ctagcacata gaggtcagga ctgcctctg gcctatgctc 110029298 [c.885+117C>A](#)  
tcagctgggc ccaggtctgt gcgtgccata taagcgtatc ttattttcag 110029348  
gcctcttctt ggggtattcc gagtaattgg gagagtgcaa gggaggccag 110029398  
ggcctggctc gtgctaagtg caatggaaac aggtttgggt cacttctaag 110029448  
gagctctggc ccacgtaggt agatggggat gtggctgatg cagagtgctc 110029498  
tgtcgggtgca ggggtgactt cttggtcact ctctctgctat tgctaacttc 110029548

atgggtgcat tcaacaacta cttgtcaact gcctgctttg ggtcagacag 110029598  
atcctaacat tgttttttca tcattgcaac cccatccact gccatttgca 110029648  
taattctagt gtagaggttg tgacctggta ctttgggtgt gatcaggcct 110029698  
gtgtgtgaat cccagctcca cttctgctgg acgtgtggcc tcgctagagt 110029748  
gtcttaagaa tgctcagatt agacgggctc agtggctcac ctgtagtatt 110029798  
agcactttgg gaggccaagg cagggtgatt gcttgagtcc aggagtcca 110029848  
gaccaggctg ggcaatgtgg tgaaactctg tctctacaaa aaatacaaaa 110029898  
gttagccaga catgacggta catatcgga gtcccagcta ctcgagaggc 110029948  
tgaggcagga ggatcacttg agcccaggag gtcaagtttg tagcctgggc 110029998  
gacagaatga gaccttgtct cacacacaca caaaaaatgc ttggagtctc 110030048  
atgggtgaca cgcaagcaca atgtctgggtg tgctatgagc ttagggaacc 110030098  
aaagagccca ggctccccct ggacacagtc cacctggcct ggtgaatatg 110030148  
ggctgttagc catctggctg cccttgca ga atgagaggat cgggtggccc 110030198  
ctagctgccg tggctgtgca gcagccgtca gtgaaggac aggagagggg 110030248  
cgtgcggtct ccatgtcacc acagtcctc cccgcgcccc gactctgta 110030298  
gtcattgcct ggtgtctccc ggtccccctg gggcattcga gtctgtagcc 110030348  
cctgtgctga gtggaagctg ccactaaagc aagccttta caaatgattc 110030398  
tttctacttg atcctcacac ccacctccct gtgaagtagg tgtcttatcc 110030448  
ctattttaca gatgtaaaaa ctgaggcctg aagagagact tcccccaagg 110030498  
ttatccagct agtgagtggc cgagccaggg gtccagccga cggactggtc 110030548  
tgtcccttta ttcaacagat ctgtcatgag cacctactat gtgccagggc 110030598  
agcgcctcca tcgaattcct gtgtttcggc cctcattccc tcagtctttg 110030648  
tcttcctagc tctcaattcc ttccacatag aaaggagggg acacagtccc 110030698  
cccagtagg aatcaataa tgatagaata ctgcctaaaa tacaccctgt 110030748  
cgagtccctg gagaatgcca cagaacagca cgttgattat acattgtgtg 110030798  
tatttttggc tgtggcagcc gctgaaatgt gcagctcagc tcctggacag 110030848  
ctttgcactc aaaccagcga actgttctcc tgtgtcacia cctgtcatct 110030898  
gatccttgac agattttggg tcagaatgtg acaggtgtct ggaacctgcc 110030948

tcggcaacgt gacacctggt gctcaggcgc agagagcggc cccagaagt 110030998  
cttctctcac atccagccca tcaggctggt gagaggcacc cggggctgcc 110031048  
accaggccat catgcctgtc tgctcatttg tcaaaaatgg tgagcttggc 110031098  
gcagagcgag gtatgaggca ggctgttggg gaggccact ccaaccctgc 110031148  
ctgaccggcc atccccatgc gggagagcta ggtgggcctc cgcagagatg 110031198  
cctcagtgat tggcaactcc tggatacag gcaatccagg tgccccgaa 110031248  
cagagcttca cacggaagtg aggaatgcc ggggtgctc tcagaggcag 110031298  
ggtagacagg agcttcatgt caggcagacc cgccttcag tgccagcttg 110031348  
gtacctacta gctcagtgat cgtgggcaag tcacttctc tctgagcctc 110031398  
tgtttccct tttgtaaagt ggggatgat ctaacgtacc cataaaaata 110031448  
ctaacagcac atatctctg ccaggcattg aacagaaaac tcaccttgtt 110031498  
tcgtctcagg gcaaagaagc agatTTTTTT tTTTTTTTT tttttgagac 110031548  
agagtcactc tgctctgtcg cccaggctgg agtgcagtgg cacaatcttg 110031598  
gctcattgca tcctcccagg ttcaaagat cctcgtgcc cagcctcctg 110031648  
agtagctggg attacaggca cacgccaaca tacgtggctg atttttgtat 110031698  
atntagtaga gatgggggtt cgccatggtg gccaggctgg tctcaaactc 110031748  
ctgacctcaa gtgatccacc cgcctcgacc tcccaaagt ctgggattaa 110031798  
agacgtgagc caccacacc tgctgaggca gatactctta tgaccccggt 110031848  
ttacaagcag gagacagacc cagtgcagaa gaccttgctc aaggacacac 110031898  
gacaaaaag gggcagagca gagactcgaa cacaggccta cttgactcca 110031948  
aatcccatgg tttttacttc ctgatggctg ggaccgtggc tgggcacca 110031998  
tccttagagc cccagcacgt tgtgggtggt tggtaaata aatctaacta 110032048  
ctgggtgcct gggcagtgga agctgtgaag ttttattttt tcatccacat 110032098  
gcatcttgtt ggatccttaa agagcaggaa gtttatcctg cataactgaa 110032148  
gaaacctaga caaacagctg tttccctgct tatggccttg ctggagttac 110032198  
acctagtctc tattctgaaa ccagtcccca aggagctgt agggaggcat 110032248  
gttatttgaa actttttctc ttgcaaatgg cagaaatcca tttcaaccag 110032298  
actttttag aaaggaagt tattggctct caactgagaa gaccagaggt 110032348



aaatggcttc aggtatagct caatccaggg gctgaaacaa tgtgtcggga 110032398  
atctgtccat ctgccacgta atatctgac atgtggcaag ataggtcatc 110032448  
ttggcgactt gtgtctgaag ttaattattt tagcagctct agtgggaagg 110032498  
ggcagaggaa accctgggag ggctgtgatt ggcccagctt ggaccacatg 110032548  
cccatccctg atcagtcacc agtgccagag gcttctgtga ccagccctag 110032598  
gatatgtgct cactgctgtg gtgaaggtat gctcagctct acccaagctc 110032648  
cgtgagaaat gctgcagggc agaaggattc ttttacaagt ggagagggcc 110032698  
agggtgccag gtaggcaaag ccgttggctg tctccagcca acaactgtca 110032748  
gatggacgag gcaggctcag ggggtgggcat aggaccttgg cctcaggcag 110032798  
gccaaagtggg aacagatgga accttctccc ctagGAGCTC ATTGACATGA 110032848 [c.886-1G>A](#) [del exons 10-11](#) [E296G](#) [I298T](#) [D299N](#) [M300V](#) [N301T](#) [N301Tfs\\*](#)  
ACCAGCACCA TCTGAATGCC CTCGGCGTGG GCCACGCCTC TCTGGACCAG 110032898 [Q302\\*](#) [L308L](#) [G309S](#) [G309R](#) [G309V](#) [V310M](#) [V310L](#) [G311R](#) [H311R](#) [S314S](#) [L315V](#) [L315Gfs\\*51](#)  
CTCTGCCAGG TGACCAGGGC CCGCGGACTT CACAGCAAGC TGACTGGCGC 110032948 [c.955T>C](#) [C319S](#) [V321A](#) [T322S](#) [T322N](#) [A324V](#) [R325R](#) [G326R](#) [S329N](#) [S329R](#) [G333G](#) [A334T](#)  
AGGCGGTGGT GGCTGTGGCA TCACACTCCT CAAGCCAGgt atcccggggg 110032998 [G335S](#) [G335D](#) [G335A](#) [G335G](#) [G336S](#) [G338S](#) [G338D](#) [C339S](#) [T342A](#) [T342I](#) [L343I](#) [L343P](#) [G347R](#)  
[E296fs](#) [InsI10](#) [L348IfsX17](#) [c.1039+7C>T](#)  
taggtgggcc aggctgccag cctgggctcc taagaggggt ccacctggag 110033048  
aattcccttg aaaggaaaaa gagacctgga aacaggtctc agctccgctg 110033098  
tgtggccttg ggcaagttag ttaacctctg gtctttgctt cctcattggt 110033148  
aaaataagga tgagagtatc tagcttgcaa gatcgttgcc cagattcaag 110033198  
caggaaagtg cacctagaga gcctggtgca gggctgggct gtggctgggg 110033248  
ctcctgtcat cggggctgtc cgcacaagct tgggaagtaa ccagggcatt 110033298  
gtcactctcc acgtctgcct aaccttgccc cacttgacc cttgatgtgg 110033348  
tcaggatgcg gttgattttg ctacaaaacg aaagggtttc cttcccgttg 110033398  
gtttggggaa agaggaagac cgagtaatgg gcttggctta ggaagctccc 110033448  
tgggtgcctgg gggcctggca aggggcttct gctagtgttt aaccacctga 110033498  
cacctacctc tgccctcagg ctcgctcctg gcctacagta ggcactaacc 110033548  
ggtcccacct gcctccattt ccctctgtgc tccttgtccc ctccctcctt 110033598  
ccttctttct ctttctgtct ttatctcctc ctctctgttc ttcaccttc 110033648  
ctttcccctc tgctttgcac tgagccccct taggctccag acatcccctc 110033698

acactccatg atggctccca ggcctcagga ggtggccaca tcctcactcc 110033748  
agccaacccc aactgttggg tcctagttca gagcccatga cgatggtggg 110033798  
acttgacatt tctggagtgt gcccgtgtg ccaggtgtt tgccaggcac 110033848  
tttacctgcy ttatttcctt taagcctccc tgagatctgc acggggagtc 110033898  
atcattagcc ccattcccag atgaggagac tgagactgag agaggggaag 110033948  
tcacttgtct gaggccacac ggccagtaca aggcaaggcc aagtcctgtg 110033998  
acttgagagc ccatgttttt aactcttgc ccctaaacc ctgggggtgc 110034048  
aaggctgggc attccagtgc acggaggggc tgcaggtaac cttgggcttt 110034098  
atggcctgtt ggctcaggtg ggtcacagcc aggaaggcac agcaggaag 110034148  
cctgggcttt tgccttgaat atgatgagct tctcccacgg agcggagagt 110034198  
tgtcaagggg gacctgcctt ccctccccgc aGGCTGGAG CAGCAGAAG 110034248 c.1040-1G>A Del Exon 11 P351S c.1057delTGGAGGCCACGAAG V353del  
TGGAGGCCAC GAAGCAGGCC CTGACCAGCT GTGGCTTTGA CTGCTTGGAA 110034298 T356M T356R L357fs Q358P S362I F365I F364S D366fs C367S  
ACCAGCATCG GTGCCCCCGG CGTCTCCATC CACTCAGCCA CCTCCCTGGA 110034348 I372M G376S G376V V377I S378P I379N H380R A382P S384F D386N  
CAGCCGAGTC CAGCAAGCCC TGGATGGCCT CTGAGAGGAG CCCAAGACAC 110034398 R388X Q390\* Q390P Stop397R c.1202C>T  
TGCAGCCCCA CCCAGATGCC CCTTCTGGA TTATCTGGG GGCTGCAGTT 110034448 c.\*35C>T 1245-1246INSG  
CGACTCTGTG CTGGCCAGCG AGCGCCACG TCCTGACACT GCTGGAGAGG 110034498  
CCCCAGCCGC TTGGCGATGC CAGCCAAGCT CTGCAGTCCC AGCGGTGGGA 110034548  
CCTAGGGAGG CATGGTCTGC CCTCTGCATC CTCTGGAGCC AGCCGAGCAG 110034598  
GAGGCCTAGG AGGGTCTCT GAGACTCCAG ACCTGAGGCG AGAAGGGCTG 110034648  
CTTCCCTGAA GCTCCCACAG TCCCATCTGC TTCAGGCCCC CGCCTTGGCC 110034698  
TGTGTTCTTC CTGGCCGCCT GGGTCCAATG CTCAGGTGCT GGGGCCCTGGT 110034748  
TCCCGGAGAA GTGTGCCTTC TCTCTCCCTT TTCAGGGACC GCCCCCTGTC 110034798  
TCTCAGGGCC AGGCCTCTCC CTCTCCAGG AAGCCTTCCC CTACCCCTTG 110034848  
TCGCCCCCTC CTCCCAGAGC ACCTGCTGTC TGGGTGGCTC ACTCAGCACT 110034898  
TGGTGTGGCC TTCCCTTCTA CCTAGCGGGA TGGGGCTCCC CCAGGGGCTG 110034948  
TCCCGGAGGC GGTGGGCCTG GTTAAATAAG GCAGGGTTTA TATGCACTTT 110034998 \*571G>A  
CTTCCGATCT GTACCTGAGA GGTTTGTGGA AAAGATGGCA AATGGGGAAT 110035048  
AAAAAGATTT TGTGTCAACA GTAGAGACTC CAGGCCACCA GCACCTCCCT 110035098

CTGTCCCTGT CCCCTCTCCA GCTGTTTCCT CCATGGAGCT CTCAGCAAT 110035148  
GGAGGGAAAT AGGGTTTGGG GTCACTTTGT TGTGCGTCTT GGGGATGAGG 110035198  
TGGCTTTTCC CAGATGGCCC TTGCTGGAGA GGGACTGGGA CACGGCTCTC 110035248  
AGTCCATCAG CACAACCTA GGCTGCTGCT GCGGAGGGAG AAGTTGAGCT 110035298  
TCCTAGCTCC AGAATCACAA GCACCCACGA GAGCACAGAC CTGTGTAAGA 110035348  
CAGGAAAGCA GAACCTGCCA TCGCTCCTGG GCGCGCCTT CTTTTCTGAA 110035398  
ATGAACTGGC TGGATGGAGA AAACAGACTC AAATGTTCTG GCCCGGTGC 110035448  
CTGGCACTCC CCACCCCGC CCCCACCGG CCCTATTTGA ACTTTATATT 110035498  
GCAGTCAGCT TGGTGC'TTTC CGAAATGCCA TTAGCCATCA GGAAACCTT 110035548  
GTAGTTGGTG CTTTGCCAGC CAGAACCTCT GGGACCCACG GACCTGCAA 110035598  
GAGGCCGAGT GGAAAGGTGG GGGCCGGCGC AGGGATTTC A GGATGAGGTG 110035648  
AAAGCGATTC AGTGCGCGTC TGCCCTTGGC CACTAGGGGG CAGCTGGCGG 110035698  
CCTTCCCTGC TGTGTCTTTC CTGCAGGGTG AGAGGAGCAG GAGCCGAGCT 110035748  
CCACCCCCAC GCCAGCCTTG GGCCCGCCTT GGGATCACTG CTGGGAACGT 110035798  
GAGAGTGAAG GGAGGACGCC TACCCAGCT TAACTGTAG AAATGGCCCC 110035848  
AGATCACTGA TGGCTGTTCC CTGCCCC'TTC CCTTCAAAAC ACAACGCATA 110035898  
AAGCAGTAAT ACTAATTAAT ACTGAACGCT CActgtggac taggcgtggt 110035948  
tacgcatcgc cccttctcat ctctgccccg acctcagtgt cattgctagt 110035998  
ctcatccccg ctttacagac caggaaacca aaggtcagag agatcgagta 110036048  
actggtgcaa gtccacacag ctcatcagca tctgaggccg gattcaaatg 110036098  
gactccagag cctgctctta gccctacgt gtgtctgctg ggtgcggctc 110036148  
tgtgtgcagg ctcaactgca ttttttagct ttctgtgctc aggetogttt 110036198  
ttctggattc ggatgtatth gaccggggtg gggctcggac ctgcatgtht 110036248  
tcctccccac gcgattthta tgaacaacca ggccagaggc tgctgtgccc 110036298  
tcagtgatgg cgctggctga cagccagcct ccagcctthta ggaggthggc 110036348  
ctgggagcct ccccaggctt ccatagatgt ccgcggcagc tgtgagatgg 110036398  
gtgcagggga cagaggctga gacccccaga gcccgctctgc tccttgaggc 110036448  
cctctctctc tcattccctg gggacaggat gtcactcctg gggcaggggc 110036498

cagctcaaca ctcttgctcc agtgaagcag ctgccggtgc gctttggcca 110036548  
gagcaacctt tcaaccacgc caccctgcg gccaccatat gggcctggtg 110036598  
tcacactcct ggctaccttg tagacagttg gcacttgcgg ctgtcacccc 110036648  
ttctcattgc ctattgcagt ggttctcgct ctcagagctg cacctcggaa 110036698  
ccacctaagg acccacgaat tcctgactcc accccagata ttctgagtta 110036748  
atctgtctca gcggtatctt tttaaaaaga catcttttaa aagctcccag 110036798  
gtgattctaa cgtgtgacca agcaccacat ggtgctgcac acctgtagtc 110036848  
ccagctactc aggacgctga ggcaggagga tcgcctgagc ccaggagttg 110036898  
gaggctgcag tgagctatga tggtgccact gc

**MVK (NC\_000012.11, GRCh37) - gDNA - 2024-11-25**

