



ADA2 (NC_000022.10, GRCh37) - gDNA - 2025-04-02

a|tgaggaaac tgaagtatag agagttgaaa caacttggtc gaggcccccac 17701276
tgctacagtg ctaaggccag ctacaaagcg aggtctgact ctgaccgtcc 17701226
tgggtacagg agccttgtct gctccacttg tcccttggag cgttgttctt 17701176
gctggtcctc ttcacacccc agctcttgtc tcctacctcc tgccccctct 17701126
actgtcctgt ccccgcatcc ctgatttccc ccctaaaaca tatattttat 17701076
tatagctact ttttactctc tgtctaattgg gttgccccac agtccacaat 17701026
cacattttga ggaaggagaa cttcccagag ttcatagaaca gattttggag 17700976
tgcctctttg cggtgcttgt ttccaaaacc aacatgctgt ggacctttca 17700926
aagacacagt acacacaaac acacacacac cctccctcca acacaaataa 17700876
accacatgc gcccgggcat ggtggctcac gcctgtaatt ccagcacttt 17700826
gggaggccga ggtgggcgga tcacctgagg tcaggagttc gagagcagcc 17700776
tgaccaacat ggtgaaacct catttctact aaaaatacaa aaaatcagtg 17700726
gggcatggtg ggcacgcct gcaatcccag ctactcggga ggctgaggca 17700676
ggagaactgc ttgaaccgga gaggcggagg ctgcagtgag ctgagattgc 17700626
gccattgcac tccagcttgg gcaacaagag tgaaactctg tctacaaaaa 17700576
aaaaaaaaa aaaaaaaaaa caaacccac atgcacataa accgaaacac 17700526
acacgaacac acaaacacc acatgaacat gcgcacaagc cccccacatc 17700476
aaactcagat gcacacagca agcatgcatg taagccacac acttgccact 17700426
ctggctgcct cagcactgca gagccccctc ccccggcctc tagttggatc 17700376
cctggtgcac actggagggg aataaaacct accccaacag gaagtgaaac 17700326
AGTTGGTGAG CTTTTCCGGT GCTCTGCACA GATGCTGGGG CGCTGAGCAA 17700276
ACAGCCCTCA GTTTCTGGAG CTGTTCCGAG g⁺laactgggg tcctttggga 17700226 c.-47+2T>C

gctgtgggat gatgaggttc aggaggtagc tgggaagtcc ggagcttggg 17700176
cttgatccac ctgcacctct ccctgtctcc atctgagctg ggtctgagac 17700126
tctcagtgga ggagtaacag gctttctccc aacaggcttt tgaaaatggg 17700076
cccaagggca tttactcagg accacagatg catgtggcct actccactgt 17700026
caccaggctg gagtgtggtg gcacgatctc ggctctctgc aacttctgcc 17699976
tctcgagttc aagccattct tgtgcctcag cctccctaata agctgtgatt 17699926
acaggcacc accaccacgc ccggctaatt tttgtatttt tagtagagac 17699876
ggggtttcac cgtgttggcc aggctggtct tgaacgactg acgtcagggtg 17699826
atctgcctgc ctccggcctc caaagggctg ggatcacagg cagagccacc 17699776
acaccagcc tcctttcttc ttagtctgga agcaaaactac tttatgaagt 17699726
tttcatgcat cctcttttaa aagtaaaagg aaaatcttgt ggaggagaga 17699676
agatgaagta gatatagcaa taaattgtga ataaggattg tttttactag 17699626
tattcaacca ggcaggctct gaccaccatt agataaaactt ctgtctggca 17699576
gcctggaaaa gttcacagtt gctgggacac aaatgctttt ggggtccttc 17699526
ttggagagga tggagttgaa gatttgggag cttgatggcc tttgttatgt 17699476
gtcaccaggg agacagggac aaggggctgg gctgttgatg gagaatgtgg 17699426
catggggtag gtgggatggt gacatagaag tcaccgtgct cctgccctag 17699376
agattttagt agcaggcaaa caccgtggtc aaaaaagaga gtcaaggact 17699326
taatgaagtt aaaggggttc tgctgacgtc cagcactctg attttggggg 17699276
tacagcttct gccataactg catattgctg aactagttc cttcttaaaa 17699226
ttttctttgc tatctgatgt actacagaat aactgagctg ggaagaatct 17699176
tggatattaa aatgatttaa tgagtagcaa actttccatt tttgtcatat 17699126
ccttgcacct ctatttactt aatatttttc ttttaacttaa aaatttttca 17699076
acaaaaaaa taatagttac gatatcatgg gtttgatgtg ctaatacatg 17699026
ttttaaattt acctatctgt caacataacc cctatccatt tgtgagccac 17698976
ctaagattgt atttatgcca ctgatgatat tcatgctgca cttggaaaac 17698926
cactgatctt gtccaagtta ccttttttgt aggtgaggac actgagatct 17698876
ggagacgtta gtgatttgcc caaggttgca cagttagaat gatactaatt 17698826

tgaggctggt cctaaggctc cctaatttac agtcttgaca tgttccagta 17698776
tgctgtatca tactttcaag tgtagagaaa caatcgtttt attttcattt 17698726
taaaaatttt atttacgtat ttatttttga gacagagtct tgctctgtca 17698676
cccaggctgg agtgcagtggt tgcaatctag gctcactgaa acctccgcct 17698626
cccaggttca agaacttctc atgcctcagc ctcatagaata gctgggacta 17698576
caggttcaat acaccacgcc tggctaattt ttgtattttg gttttgctat 17698526
gttgcccagg ctggtatcga actcctgggc accagtgatc tgcccacctc 17698476
agcctcccaa agtgctggga ttataggcat gagccactgc cccttcttaa 17698426
atgtaattca aatagataac ccaggtaaag gagcagcata gagccttgtg 17698376
tgaggagatg ctgaatacat ttcttctctt cagtcctctgc tcgttgccac 17698326
cctgaactgg ctgctctctg caagttttga taatcctttc taatgctaata 17698276
gctctgaaat accaagatgc tgtaccttgg tggggccaca gaatgattga 17698226
ctgtgctgtg caaggtaactc aatctaaaga ctgtcagttc tggggcaatt 17698176
tcttgatttc cttattggct tatttccttc acctgttttt tttttctttt 17698126
tccttctgaa atgtctgtta tttgggtggt ggatttcttc aaccaataat 17698076
catctcattt tcttttctcc tattttgctt tacttttaaa aatattttct 17698026
ttaacttcat ttttaatat gctagtaaat ttttaaacad tcggctttgc 17697976
tgtttttaat ttctgaaagt tctttctaata tctcattttt ttaatcacct 17697926
cctgttcctg ttttacacac acaatgtttt atgtctttaa ggatgttaata 17697876
tacagttctt tcaggttttt cttttatttc ctgtgttgct ttgtttcctc 17697826
tcagttcctt atctctgtgt gttttgtttt ggtttctttc tcagtttgaa 17697776
gcatgtctta tgatcttgtg ctctgggtat atttgttatt tatttattta 17697726
ttttaacttt aatccatttt atttgagtct ctctctctat atatatgtgt 17697676
gtgtgtgtgt gtgttttttt tttttttgag gtggagtctt gctctgttgc 17697626
cgggctggag tgcaagtgca cgaactcggc tcactgcaac ctctgccctc 17697576
tgggttcaag caagtttcct gcctcagcct cccaagtagc tgggattaca 17697526
ggcacacgcc acatggctag tttttgtatt tttagtagag acagggtttt 17697476
gccatgttgg ccaggctggt ctggaactcc tgacctgtg atccacctgc 17697426

ctcggcctcc ctaagtgctg ggattacagg catgagccac catgcccgg 17697376
cttagttact ctgaaatata cataatatta ttgctaagta tagtcaccct 17697326
agtctactat gaaacattag aacttatttc ttctatctaa ctgtaggttt 17697276
ttttttttcc tgggagtggg gcagataggg tttcactctg tcaccagggc 17697226
aggagtgcaa tggcaccatc atggctcact gcagccttga cctcccagac 17697176
tcaagtgatc ctcccacctc agcctgctga gtagctggga gtacaggtgt 17697126
gtaccactac acatggataa tttttattat tatatttatt tattttattt 17697076
gagatgaagt cttgcttctt ccccaggctg gagtgcagtg gtgcgatata 17697026
ggctcactgc aacctccgcc tctcaggctc aagcgattct cctgcctcag 17696976
cctcctgtgt agttgggatt acagggtgcac gccaccacgc ctgactaatt 17696926
tttgtatttt tagtagagat ggggtttcac catgttggtc aggctggctc 17696876
cgaactcctg acctcgtgat ctgcctgccg ataattttta aattttttgt 17696826
agagatgggg gtctcgcttt gttgcccagg ccagtcttca acttctaggc 17696776
tcaagtgatt ctctgcctc agcctcttga agtgcttgtc tatttgtacc 17696726
cataaccaac ttctcttcat ccccatgctc taccccaacc cttcatagtc 17696676
tctggtgtct atctttctat tctctatata tatgagatca acttccttag 17696626
ctctcacaca tgagtgggaa catacgggtt ttgtccttct gtgtctggct 17696576
tatttcattt aacattatgt cttctagttc cgtgcatggt ggtgcaaagt 17696526
acgtgatttc ttttttcttt tttttttttt gagacggagt cttgctctgt 17696476
cgcccaggct ggagtgcaat ggcatgatct cggctcactg caacctccgc 17696426
ctcctgggtt caagcaattc tcctgcctca gcctcctgag tagctgggat 17696376
tacaggcatc cgccaccacg ctcagctaat ttttgtattt ttagtagaga 17696326
cgggggtttca ccatgttggc caggctggct tcaaaccctt gacctcgtga 17696276
tccacctgcc tcctgcctcg gcctcccaa gtgctgggat tacaggcgta 17696226
agccaccgtg ccagcccgt gatttcattt tttaatggct gagtagtatt 17696176
ccattgtgta tatatgccac attttctttc ttttttaaata aactggcttc 17696126
tgctttcttg tgtaatttac acaggagaac cccaaattcc acactttggt 17696076
tttctcttct gcctttgtta ttctttcagt atgtatgtcc acagagattg 17696026

tttctcccaa tagcatatgc ggtttgatcc tcaaccagga cacacaggcc 17695976
ctacaaaatc ccagccctcc aagacggatg cctgggccct cccatttgac 17695926
tgcacccatg tctgtttgta ctggggctct gccctgggtcc tgtcaccct 17695876
gagggtgcct tagggtagga atgccagaca ggctccgtgt gatgtgtcaa 17695826
ctctgaataa atacaagagg ctgctaggag cccccagctg aggattgaca 17695776
ggcaggctat atctgggctc catttcaaag aatgctgtga tccattagca 17695726
atgtctgcca tggcaatacc cattaggagt acctggaagg agggttttgg 17695676
ggaatgggct cagaaaggaa caaagtgtt ccttccattc ttgccttagg 17695626
tggctgttct gccaccagg ctgtgctgtc tcagtggcca gtggctgagg 17695576
aggaagtctg aaggccacag agttgcaaat ggcttccctg gggcctgcag 17695526
gaccagcata ggcccaagc tagaggaagc ttggaggggc acccatgctg 17695476
ggtcctgcgg agctctgcat actacaggcc accctggcat tagctcctta 17695426
tcctctggag tccatctgat cctggagaag acagctggct ggcctcagag 17695376
cgtttagatgc aactcgggga taaaaacatt tttacatggt acggacacag 17695326
aaatgggctt tacctctgaa taaacttaga aactttccat ccgaactaaa 17695276
aggggtgtatc ttctatatgt tgccaagaaa cctaaactga gtacaaggac 17695226
aattttactt taatcaagtt acagaatgag ggtacacagc ttcgaaaagc 17695176
agtttgtagc agaagatgcg aggggtgtgtg taaagccatg tttctagaat 17695126
ataccaaagg aaacacacac aaccacagca tggccttttg ccaaccctcg 17695076
atgctgctcc ctactggggg caggcggcta tttcgtccag ctgactctgg 17695026
gaatgtaatg ctccgtgagt gtgtccaggt gtctgttgaa gtcctccact 17694976
ctctgcttgt gggttttgga tgctatttt ttttttttt ttttttgaga 17694926
cagagtttcg ctcttgttgc tcaggctgga gtgcaatgga acaatcttgg 17694876
ctcactgcaa cctctcccta ccgggttcaa gcgattctcc tgcctcagcc 17694826
tcctgagtag ctggaattac aggcacacac caccacgccc agctaatttt 17694776
ttgtattttt aatagagacg gggtttcacc gtggtggcca gactggtcct 17694726
gaactcctga cttcaggtga tccaccgccc tcagcctcct gaagtgtggt 17694676
gattacaggc gtgagtcacc aagcctggcc tggatgcttt cttgaggatc 17694626

ctttccattg ccgcttctcc tgcattttct caaaggctgc gcgggccggg 17694576
gtccacttgt ccaggccgtg ctgcttctcc tcctcattct ttttgttcat 17694526
tcccattgat tccgggagtt tagctttgtc tttgtccttc tttttcttct 17694476
tccgcttggg cactctgagc tctgcgacgc ctttcagctt tagaagtcct 17694426
ttttgtacct gctcgtaggc atccacgaca ctccccggtg cttcggtaga 17694376
tggacttgcc acgttttctt tatccgttga tctgttgggtg gacacttggg 17694326
ttgtttccat aactttgcta ttgtgaatag tgctgcaata agcatccgag 17694276
tacaggtatc cctttgacat actgatttcc ttccctttgg atagataccc 17694226
agtaatggga ttgctggatc gtatggtagt tctattttta gtttttcaag 17694176
aaatatccat actgttctcc atagtggctg tactagtta cactcccacc 17694126
agtgggtgaa ggagctccct tttctctaca tcctcaccag catctgttat 17694076
tttttgcctt ttaagtaata gccatttttt gagatggggg gagacgatct 17694026
cattgtagtt ttgatttgca ctccccagt gattagaaaa aatgttggct 17693976
gggcctgggtg gctcagatct ataatcccag aatgtcggga ggtagaggca 17693926
ggaggatcgc ttgagcccag gagtttgaga ccagccatgg caacatagtg 17693876
agaccctgtc tctaaagaaa aaaaaaaaaat tagctgagtg tagtgggtact 17693826
acactcagct actcaggagg ctaggggtggg aggattcctt gaagccggga 17693776
ggttgccgct gcagcgagct ttggagtcca accaagtgga ctcacgctac 17693726
tgcatccag cctgggcaac agagtaagac cctgtctcaa ggaaaaaaaa 17693676
aaaagaaaga aagaaagcaa agcaaagaaa aaaatttggg catttattcg 17693626
tatacgtatt ggccattttg tatgtctttg ggtctttggc cattttttaa 17693576
gtgagattat ttgtcctttt actgttgagt tgtttgattt ccttatatag 17693526
tctggatatt agctctccat cagataacta atttgtaaat attttctcct 17693476
attcaagaga ttggccgggc atggtgactc acgcctgtaa tcccagcact 17693426
ttgggaggcc aaggcaggag gatcacctga ggtcaggagt tcaagaccag 17693376
cctgggcaac atagtgaaac tccgtctcta ctacaaatac aaaaaatta 17693326
gccgggcctg gtggcacatg cctgtagtcc cagctactca ggagctggga 17693276
ggctcaggca gaagaactac ttggaccagg gagacggaga ttgcagtgag 17693226

ccaagaaaag gctgggcacg gtggctcatg tctgtaatgc cagtacttta 17693176
ggagtccgag tctgggtggat cacctgaggt caggagtctg agaccagcct 17693126
aaccaacgtg gtgaaacccc atctctatta aaaatataaa aaaattagcc 17693076
gggcgtgggtg gcacgtgtct gtaatcccg ctagtctgga ggctgaggca 17693026
ggagaatcgc ttgaacctgg gaggaggagg ttacggtgag ccgagatcgc 17692976
gccattgtac tccagcctgg ttgacaagag cgaaactccg tccccacaa 17692926
aagaaaagaa aagaaaagaa aagaaaaaaa taggttgtct cttcattctg 17692876
ttaattgttt ctttgctatt taattaatta attaattaat ttttttttcc 17692826
tctttttttg agacggagtc tcactctggt ggcaggctgg agtgacgtgg 17692776
cacgatcttg gctcactgca acctccgcct cccggattca agcaattctc 17692726
ctgcctcagg ctccctgagta gctgggacta cagggtgcatg ccaccacgcc 17692676
cagctaattt ttgtattttc agtagagacg gggtttcacc atgttggcca 17692626
ggatgctctc gatctcttga cctcgtgatc cgtccacctc agcctcccaa 17692576
agtgctggga ttacaggggt gagccactgc gcctggccaa ttcatttatt 17692526
tattagagag gatatgacat tgttaccag gttggattgc agtggcgcaa 17692476
ttttggctca ttgcatcctc gatttcccag gctcagggtga acttcccacc 17692426
tcagcctccc cagtagctgg gactataggt gtgcacaacc acgcccagct 17692376
aatttttgta tcttttgtag agatggagtt tcaacatggt gctgagaatg 17692326
gtcttgaatt cctgggcttg agcaatccac ctgctgtgcc agcacctggt 17692276
cttattttaa ttttatttat ttattttgag attgagtctt gctctgtcgc 17692226
ccaggctgga gtgcagtggc gcgaactcag cttattctaa cctctgcctc 17692176
ctgggttcaa gtgattctcc tgtctcagcc tcccaaacag ctgggactac 17692126
aggcatgcgt caccatgccc agctaatttt tgtattttta gtaggacggg 17692076
ttttcatcat attggccagg ctggctctcaa actcctgacc tcgtgatcca 17692026
cccgcctcgg cctcctgaag tgttgggatt acaggcgtga gccaccgcgc 17691976
ccagccgtat ttttattttt taataaaaaa atattttttt tagagacaag 17691926
gtcttgatct gttgccaagg ctggagtgca gtggtgaggt caaagctcat 17691876
tgcagcctca aagtactggg ctcaagtgat gctcccgtt cagcctcctg 17691826

aatagctggg accacaggca tgctggttat atttaaaagt aaaacactgg 17691776
ctggacatgt tggctcatgc ctgtagtccc agcactttgg gaggctgaga 17691726
tgagtggatc acttgaggct aggagttcaa gaccagcctg gccaatatgg 17691676
tctctattaa aaatacaaaa attagctggg tatggtgacg cgtgcctgta 17691626
gtcccagcca cttgggaggc tgaggcacga gaatcgctta aaccctggag 17691576
gcgagggttg tagaggcca agatcacgtc actgcagtcc agcctgggtg 17691526
acagagcaag actctgtctt aaaaaaaca aaaattaaaa taaataaaat 17691476
aaaataaaag tgaaccacta aaaatcagat tgcagtgtct ttatgcatga 17691426
gccagggctt gtttgacctc atggtgacct ttaatttggg aaaacctgcc 17691376
ggcgcggtg actcatgcct gtaatcccag cactttggga gactgaggct 17691326
ggcggatcac ctgaggtcag gagttcgaga ccagcctgac caacatggag 17691276
aaaccccgtc tctactaaaa atacaaaatt agccgggctt ggtgatgcat 17691226
gcctgtaatc ccagctattt gggaggctga ggaggagaa gcacttgaac 17691176
ccgggaggcg gaggttgacg tgagccgaga tcacaccatt aactccagc 17691126
ctaggcaaca agagtgaaac tccatctcaa aaaaaaaaaa aaatgccagg 17691076
tggtgcagtg gctcacgcct gtaatcccag cactttggga ggcccaggcg 17691026
ggcagatcac gaggtcagga gatcgtgacc atcctgtcta acacagtga 17690976
accccgcttc tactaaaaat acaaaaaaatt agccgggcat ggtggcgggc 17690926
acctgtagtc ccagctactc gggaggctga ggaggagaa tgggtgtaac 17690876
ccaggaggcg gagctcgag tgagccgaga ttgcaccacc gtgctccagc 17690826
ctgggcagca gagcgagact ccgtctcaa aaaaaaaaaa aaaaaattgg 17690776
gaaacccta cctgtctgta cctgtaggtc ttttctctgg ggtctggaag 17690726
aagaatcctt caatatcttg ctttctggta atctgagagc agggcgagaa 17690676
aaggaagatc agagttccac ctttaaactt gtaggttttc actccccac 17690626
tctcctttgc agTCCCGTGG AGTCTCCATC TGAGCCCTTT CCTAGTCCAG 17690576 -43C>T c.-42G>A -31A>G c.-14G>T
GCATCCCGAT GTTGGTGGAT GGCCATCTG AGCGGCCAGC CCTGTGCTTC 17690526 M1T P6L R9W
TTGCTGTTGG CTGTGGCAAT GTCTTTCTTC GCCTCAGCTC TATCCATAGA 17690476 G25C I30T
TGAAACACCG GCGCATCTGT TGTGAAAGA AAAGATGATG CGGCTGGGGG 17690426 T33Nfs*29 R34W R45W c.138G>C G47R G47W G47R GC G47A G47V G48R

GGCGGCTGGT GCTGAACACC AAGGAGGAGC TGGCCAATGA GAGGCTCATG 17690376 c.144delG R49Afs*13 R49W c.158del N53N K13del
ACGCTCAAAA TCGCTGAGAT GAAGGAGGCC ATGAGGACC TGATATTTCC 17690326 c.232_322+105delinsATG
ACCCAGCATG CACTTTTTCC AGGCCAAGCA TCTCAITGAG AGAAGTCAAG 17690276 H91R H91Lfs I93T
TGTTTAATAT TCTAAGGATG ATGC~~CAAA~~AG gtaagggttg gaaaggggtg 17690226 P106S p.A109Lfs*11
gcttgggggtg ctgggaaggt agagggactc atcttggggc tattactgtg 17690176
cttgtggctg ttgctattct agatggagca gagaaagcct cactcagctg 17690126
ttctgctcct ctgtccttat gggtagacta ggaaaaggggt gttgaaaacc 17690076
aaaaccctg cttcctgggg gactcgcaga cagtcaggat tggaaaagca 17690026
tccagccctg agactttgct attccctttt tagttttccc aggggctaag 17689976
ctaccacata ggatacaatg tgatatagca tcctggagta gtataaacac 17689926
acctccatga aacatgaaat aattagcatc ccgcacatat aaatagccag 17689876
gggtgggtgtg gcacctgtaa tccgagctac tctggaggct gagtggagag 17689826
tatcgcttga gcccaggagg tggagtttgc agggagctat gatggcacct 17689776
ctgcactcca gcctgggcca cagagcaaga ccctgttccc caaaaaatgt 17689726
taattttttt ttttattaaa aaaaattttt tttgagacag agtctcactc 17689676
tgttgcccag gctgaagtgc actgggtgtga tcttggctca ctgcaacctc 17689626
tgcctcccag gttcaagtga ttctcctgcc tcagcctcct gtagtagctgg 17689576
gattacatgc atgaaccacc acacctggat aatttttgta ctttttagtag 17689526
agacgggggtt tcacatggtt ggccaggctg atctcgaaca cctgagctca 17689476
ggcaatccac actcctcggc ctcccaaagt gctgggatta caggtgtgag 17689426
ccactgcacc tggccaaaaa tgtaattta aaatgtaaaa ataatagcag 17689376
cttgcagttt acaaagactt aacacctggt tttttttttt cttttttttt 17689326
cttttttttt ttgagacgga gtcttgttct gtcgcccagg ctggagtgcg 17689276
gtggcgtgat ctcagctcac tgcaacatcc ttcttcagg ttcaagcaat 17689226
tctcctgcct cagcctcccg agtagctggg attacaggca catgccacca 17689176
tgcctggcta atttttgtat ttttagtaga gatgggggtt caccatgtta 17689126
gtcaggctgg tctcgaactc ctgacctcgt gatctgcctg cctcggcctc 17689076
ccaaagtgct ggggttacag gagtgagcca ctgtgcccag ctgttttttt 17689026

ttcttttaaat gttataaata gagatttaaa aaataataat aatcgtgagg 17688976
tcagtaaagt agcatcccca gttgctggga ggcataagag ggtgtctggg 17688926
ggctcgtgtc agggccaggg gctggatggg cacaagaagc gcagagggac 17688876
agcatgcact gtgcctaggg gagcaagggg cacagctggg gtctgggtggg 17688826
gaggacaagc atggggattc aactggcaaa gcctgcaggc cagaagctgt 17688776
acagacacag gcccagcgca ggggatgaaa agccagtggg agaggagtgtg 17688726
aggggcagga tgagaggatg gaggacaagt gtgtgaaaag gaccgtggcc 17688676
ctggggctca tcccagtgtg tcccgtcatg cagtgttggg tggcctcatt 17688626
gaaaggcctg ggctcccatg ggagagctag aagccaatgg agccctgact 17688576
tgaacctcag ttctctgggt ccaagcctga tgcctctca ctctcccatg 17688526
ctgcccctct tggacaagat caccctggc tcctgattag tgagacatgg 17688476
aagccccatc cttaaactag agccttaaac aagtccgag aaacatgtct 17688426
ggacagaaat ccttctgctt gcacgtcttc ttgtgatcca cactgtcccc 17688376
aagccccgga gccctgggat gggacttcac ccctttgtcc ccaagccccg 17688326
gagccctggg atgggacttc accccttgt cccacagcc ccagagtcct 17688276
gggatgggac ttcaccccct cctttgtccc caagccctgg agtcctggga 17688226
tgggacttca ccccttgtc ttcaccattc ttcttccctc tccagGGGCT 17688176 [A109D](#)
[GCCTTGCAAC](#) [TCCATGACAT](#) [TGGCATCGTG](#) [ACTATGGACT](#) [GGCTGGTGAG](#) 17688126 [H112Y](#) [H112Q](#) [116Lfs*4](#)
[GAATGTCACC](#) [TACAGGCCTC](#) [ACTGCCACAT](#) [CTGTTTCACC](#) [CCAAGGGGA](#) 17688076 [T129P](#) [p.\(Y130Sfs*48\)](#) [R131Sfs](#) [c.396_397del](#) [C134Y](#) [I143Sfs*41](#)
[TCATGCAGTT](#) [CAGATTTGCT](#) [CACCCAACTC](#) [CCCGTCCATC](#) [AGAAAAATGT](#) 17688026 [P151QfsX](#) [P155Hfs*29](#) [C159Y](#)
[TCCAAGTGGG](#) [TTCTGCTGGA](#) [GGATTATCGG](#) [AAGCGGGTGC](#) [AGAACGTCAC](#) 17687976 [W162R](#) [R169G](#) [R169Q](#)
[TGAGTTTGAT](#) [GACAGgtgag](#) [tagtagttca](#) [gaaagcacat](#) [gtcccaggcc](#) 17687926 [F178S](#) [c.542+1G>A](#) [542+7A>G](#)
tgtcatgggg tggcagtggg taggtgtctc ccttgggtaca aacctataga 17687876
taaaaatctg gctttaataa aacatgaggc aaggctgagt gcggtggttc 17687826
acgcctataa tcccagcact ttgggaggcc aaggcgagcg gatcacttga 17687776
gcccaggagt tgccagtctg gtcaacatgg tgaaagccca tctctaccaa 17687726
aaatacaaaa aattagccag gtgtggtgct gcacctgtag tcccaggtac 17687676
ttgggaggct gaggcaggag gatcacttta acccaggagg atcactttaa 17687626

cccaggaggt tgaggccaca gtgaactgag atggagccac tgtactccag 17687576
cctgagtgac aaaataaaac cctatctcaa aaaaaaagca tgagcacctt 17687526
tttcttttaa ccttgcagga tactttgctc cacaaaagca ttcaacacct 17687476
tttctatcca tagtagtttt tctgggtgcat ttaaaatcta caaaaagcat 17687426
tatcagcaac actatTTTTg tttgttatta ttattgttat ttattattat 17687376
tattatttga gacagggctt tgctctgtca cccaggttgg agtgtagtgg 17687326
cgtgatcttg gctcacagca gcctgatctt ggctcacagc agcctctgcc 17687276
tcccgggttc aagtgatttt cctgcctcag ctttctgagt agctgggatt 17687226
acagacatgt gccaccatgc ctggctaatt tttgtatttt tagtagagac 17687176
agggtttcac catgttggcc aggctggtct tgaactcctg acctcaggag 17687126
atctgcccac cttggcctcc caaagtgctg agattacagg catgagtgac 17687076
catgcctagt cagcaacact attgctgtag caaatgagat ttgtctgatg 17687026
ctcaataaaa ccagagagaa taaaagttcc tagctctgaa gtgatgacaa 17686976
tctagctgga agataaatct tcttgaaaat ctgatgcagc aacttcctaa 17686926
cagacttgta tagtatcatt attattatta ctatttaaga cagggtctca 17686876
ttctatcatc taggctggag tgcagtgcca caatctcggc tcaactcaga 17686826
ctcaacctcc caggctgaag caatcctcct gtgtcagcct cctgtgtcag 17686776
ctgaagcaat cctcctgtgt cagcacacta gaggtgtgca ccatcatgcc 17686726
cagctaattt ttgtattttt tgtgagatgg ggttttgccg tgttgcccag 17686676
gctggtcttg aactctgcgg ctcaagccgt cctctcacct tggcctccca 17686626
aagtgctagg actacaggca tgagccgagc cattgtgcct ggcatgtat 17686576
agtaatatta taagtgacaa ttaatttggc cacagaaatg tctacagagt 17686526
gccccctga ggttacttcc ctttatgaaa tgagaaacgt gaagctgagc 17686476
aaggttaatt agcttatgca aggacacaca gctggtaa at ggccagttgg 17686426
ggatacaaac ctgggtgctg attcagatga tttccattcc actcccttca 17686376
ttaacctgct cgagctgcca taacagaata ccacaggctg gggagcttaa 17686326
acaataggaa ctgattttct caagccgggc aactgggtc atgcctgtaa 17686276
tcctagcact tcgggaggct gaggtgggag gatcacttgc acccaggagt 17686226

tcaagaccag cctggtggcc ggggtgtggtg gctcatgctt gtaatcctaa 17686176
cactttggga gaccgaggtg ggcggatcac ttgaggtcag gagttcaaaa 17686126
ccagccaggc caacatggtg aaaccctgtc tctactaaaa atacaaaaaa 17686076
attagccgtg catgctggca gccacctgta atcccagcta ctctgggaggc 17686026
caaggcagga gaatcacttg aacctgggag gcggagggtg cagagagctg 17685976
agatcatgct actgcactcc agcctgggcg acagagcaag attctgttta 17685926
aaaaaaaaa gaaagaaaga aagaccagtc tgggcaacat agtgagatcc 17685876
ccatctcaac aaaaaataaa aaattaacca gatgtggtgg tgtacaccta 17685826
tagtctcagc taccocaggg ggctgacata agaggattgc ttgagcctgg 17685776
gagattgagg ctgcagcgag ctgtgattgt gacactgcac tccagcctgg 17685726
gcaacagagt gagaccctgt ttcaaaaaaa aaaaaaaaaa agaaggaatt 17685676
gattttctca tggttctgga ggctggaagt ctaagatcaa ggtgccaggg 17685626
caggggtggt tcctcctgag acctctgtcc ttggcgtgca gaaggcgcct 17685576
ctggctgtgt actcacatgg ctttctctct gtatgtgcac tcctgcggtc 17685526
tcttcttctt cttctttttt tttttttgag atgagtcttg ctgtgtcgcc 17685476
caggctggag tacagtgggtg cgatctcagc tcactacaac ctccacttcc 17685426
agggttcaaa caattctctt gcctccctag taactgggat tacagggaca 17685376
aaccaccacg cctggctgat ttttgtattt tagtagagat ggggtttcac 17685326
tatgttggcc aggctgatct cgaactcctg acctcaaatg atccacccat 17685276
cttggcctcc caaagtgttg ggattacagg cgtgagccac cacgcctggc 17685226
ctcctcttct tacaaggaca cccatcttat taggtagag ccccatcctt 17685176
acaacctcat ttagtcttaa tcatctcttt aaaattccct tctccaaatg 17685126
agggttaggg cttcaatatt tgaatttggg ggtttgggga cacaagttag 17685076
tccataacat tccccaaaa gagcttggtc tagtttctctg tcagtgggta 17685026
taggaagaaa aaaagagaga gagagagagc tttttggtct agaaagtaca 17684976
gtggggtcag actggccaag catacagagg gaggacagga gccaggagag 17684926
actgactggt gagctctcat cttaagcagt ctctgcggtt tggggtttgg 17684876
gtttaagcag gcagtgggct gcctggccac aggacccatg cttatatcgt 17684826

gagcgtggga atgctcccct ttgccccttc cttatctcca ctctagggtg 17684776
aatcctgtga gctgctagct gggatagca aggtgggtag cagtcctatg 17684726
ggcgccccggg ggcagtgctc tggatcatgc ctctgccact ccccacttcg 17684676
tgtcttggac agCTTGCTGA GGAATTTCAC TCTGGTGACC CAGCACCCCGG 17684626 L183P T187P L188V L188P P193L
AGGTGATTTA CACAAACCAA AATGTTGTCT GGTTCGAAATT TGAAACCATC 17684576 V203A W204C G>T W204C F207S I210Tfs
TTCITCACCA TCTCTGGTCT CATCCATTAC GCACCAGTGT TCAGAGACTA 17684526 F212del Y220X Y227fs
TGTCTTCCGG AGCATGCAGG AGTTCTACGA GGACAACGTG CTCTACATGG 17684476 M232T Y236del c.709delC (p.Glu237fs) D238N A247Ofs*16 M243R E244A
AGATCAGAGC CAGGCTGCTG CCGgtgagcc cagctctcct ctctgttcct 17684426 A247V L249P P251L P251P 753+2T>A
cccacctcct ttgctctggc ctgactcaga tcttagctgg tagaagactg 17684376
aatgctcatg aattgaccac tcaggtctct ggtgcaagg atcatgtgcc 17684326
tttccagggg ccaacatgag caaggaaacc tgaaatggac tgggcagcct 17684276 Del E5-6-7
ccagcaaaac tgggaacaca ttccgtgctg ccctttgccc ccctgtttct 17684226
catggttccc cgttctcccc tctgccatga tactcagggc ctctgtgacat 17684176
aagctgagaa ggagaattgg gatagagcca tcttaggggc caaaacaagg 17684126
ggtttgaaaa ataaaaggag ccacatggca gggtgagggc aagagacatg 17684076
cagatgcata atcgtccatg ggatttgaa attacaaggt cacctttgag 17684026
cagtttcagt aacatgctga gaagagaaac cccatttctg ggagtagaaa 17683976
aatgaaatag acggccgggc atgggtggctc acacctgtaa tcccagcact 17683926
ttgggaggcc gaggcaggca gatcacaagg tcaagagttt gagaccagcc 17683876
tggccaatat ggtgaaacac tgtctctact aaaaatacaa aaaattagcc 17683826
gggcatgagc ctgtagtccc agtactcgg gaggctgagg caggagaaca 17683776
cttgaacctg ggaagcagag attgcactga gccaagatcg caccactgca 17683726
ctccagcctg ggtgacagag ttagatgttg tctcaaaaaa cacacacaca 17683676
caaaaaaaaa aagaaagaaa ggaaaagaga aagaaaaatg aaatacaggt 17683626
gatgaattgg agccaggttt ggctgattaa aggctctgag tgtgatttga 17683576
gaaaaagaac atcgagatag ctggagggaa ccacaggggc cacaggtttc 17683526
tttttaggat ggagagactt gttttgcaca cagaaggaag aagtgtggag 17683476
aggttaaaaa gagaggggag gccaggtgca ttggctcatg cctataatcc 17683426

cagcactttg ggaggctaag gctggtggat cacttgaggc caggagtttg 17683376
aaaccagcct ggtcaacatg gcgaaattcc atctctacta aaaatacaaaa 17683326
aattagctgt tggccgggcg aggtggctca tgcctgtaat ctcagcactc 17683276
gggaggctga ggcaggcggga tcacgaggctc gagatcgaga ccatcctggc 17683226
caacatggtg aaaccctgtc tctactaaaa atacaaaaat tagctgggcg 17683176
cgatggcgca tgcctgtact tctagctact tgggaggctg aggcaggaga 17683126
attgcttgaa cctgggaggt ggaggttgca gtgagcagag attgtgtcat 17683076
tgcactctag cctgagtgac agagtgagac tgtctcaaaa aaaaaaaaaa 17683026
ttagctggca tgggtgtgag cacctgtaat cagctactcg ggaggctgag 17682976
gcgggagaat cacttgaacc cagggggagg agcttgagc gagcagagat 17682926
accgccattg ctcttcagcc tggatgacag agcgagactc cgtctcaaaa 17682876
aaaaaaaaaa aaaaaaaaaa aaaaagaaaa aaaaatttga ttttaaggaa 17682826
ggaagtttgg agagagtga atggaaagga gtagaaagag tccaaaagaa 17682776
gggagcatca tcaaaaaaat ctgatttttg ggtcttgcat tttggccaga 17682726
agcaaaggat aactgaggtt aggtactctg agatggactg acaccaggct 17682676
ccgtgttggt aggggagggga tctttcgagg agagcagccc taggtgctca 17682626
aatactgcta gagttttatt tcagtgagtt tattggagag aactttcctg 17682576
aggatgtttt tgttgggctg agggagatgg ggtattgtgg gagtgggag 17682526
gatccttggg tgttttatgt ggtgagctca gacgggtttg agctgggtaa 17682476
aggttatcag tggcttgggg aaagtgacct ttggtagagt cttctccaca 17682426
ttgtatccaa gagagtctgc tcgttcattt acatattgat cggatacaca 17682376
aatgccttgg ggactgacag ttaagcttgt ggaaaggccc acatggtggc 17682326
agtattttag ttttgtttagc atattctgta ggcttttata cgctccgaag 17682276
tttactgttt gtagaccag aagtgatagg actccgcagg atcaatacac 17682226
actgaacaaa ttcataaggg atagatgtgt aaacaagaaa gtcagaatgc 17682176
tgttatcatt cggaccagac acttatgctt catcaggaaa ttctcctctt 17682126
ttcttttctt tcttcttctt cttttttttt tttgacagaa tttctgtcgc 17682076
ccaggctgga gtgtagtgg atgatcttgc ctactgcaa cctccacctc 17682026

ccaggttcaa gcgattctcg tgcctcagcc tcccagtag ctgggactac 17681976
agatgcacac caccatgcct ggctaatttt ttgtattttc agtaaatggg 17681926
gtttcaccaat gttggccagg ttagtcttga actcctgacc tcagctgatc 17681876
cactcgttat tcaagttatt ccagtttgtg ggtctcaact ctccctttgc 17681826
ttggcatcct ggactgaccc acctttttcc ttagatatgt tttttttttt 17681776
tttgaggcag agtttcgctc ttgttgccca ggctggagtg caatggcacc 17681726
atcttggttt actgcaacct ccgcctcctg ggttcaaggg aacctcctgc 17681676
ctcagcctct ggaatagctg ggattacagg cgtgcaccac cacaccagc 17681626
taatttttgt attattagta gagacaggtt tttaccatgt tggctaggct 17681576
ggctctgcac tcctgacctc aggtgatcca cccacctcgg cctcccaaag 17681526
attacgagcc accatgcccg gccttttctt tagatatgtt aatacccttg 17681476
gtgagtttag cggcaaggct ggatcctgga gagtccgatc tcttgtgtga 17681426
tctgcatgtc tccacttgga tctgttgctt gttttctatt ttaactctct 17681376
gagtgcagag ttatatttcc atttctgagt tcttgagaag tgggagggga 17681326
acattaactt tgccttgcaag tggagctttc atcagttttg tggacagagc 17681276
agacagacaa gacacaggac acaaatcatc cttttaaaaag aaaagagagg 17681226
gtctcatctt ttattgagaa aagaatttct gaaaagggag gcgctggcaa 17681176
aaattgatga gctgactttg ctctggcctt aggtaggctg gaagaaactg 17681126
cacttcccag agcaggtgat tcttgtgttt gtttgtttgt tgtttttgag 17681076
acattctgtg ttgcccaggc tggagtaaag tggcgtgatc ttggcgcatt 17681026
gtaacctccg cctcccgat tcaagtgatt ctctgcctc agcctcccga 17680976
gtagctggga ttacaggtgt acaccaccgc actcagctaa tttttgtatt 17680926
tttagaagag atgagatttc accatattgg ccaggctggt ttcgaactca 17680876
cgacctcaag tgatccacc accttggcat cccaaagtgc tgggattaca 17680826
ggcgtgagcc accgcgctg gcgagatggg gttttacat attgcccagg 17680776
ctggtctgga actcctgagc tcaggcaaat acaccacgt cggcctcca 17680726
aagtactagg attacagacg cgagccatgc ccagctatta attcatctta 17680676
ttgatgtcga aactaaagcc tggaaagtc aaagagctt atgaaggtca 17680626

aataggtagt aaggggtggc tggaccaga ccagggtccc taagttcgtc 17680576
gctttcctca ccgcgctggg ctctctgagc gtcctaataag ccacgcccac 17680526
ctcaaagtggc gatcccagag agcatctggc ttcaattttc ctttttccgg 17680476
aggggagatg gattccctgg aatggaactg ggctctggta ggggagaact 17680426
tcctgttggg caaatcctga caactgtctt ggtgtgggag tgcatagggg 17680376
actccgacct tcgcagaacc ctgggatctt cgtgggtgga ggggaagagg 17680326
atagaggagg ggagggagga gacgctgaga cagaggcttt catcttgagc 17680276
ctgggtggga ggcatgtggg agaagtgtct gagcggttgg atcggaggga 17680226
ggaagagaag ggccagagca ctggcttccct gttccatctt cccccttgtt 17680176
ctgcaggtgg ccattttctc cttccagagc cggaggtgga gagacttggg 17680126
ggcctgccc a gctccagtcc tctgtcctca ctctgcccgt ctccgcccgt 17680076
ccccagcca acctttggag aaggtgctgg gctgctagga tttgggattc 17680026
tggtggaggg ggagggggag gggatgtgcc catttgttcg ggtctgacct 17679976
tggaacaaag gcttttgcca cggagagtct aggtcttaat gccccatt 17679926
agccagagtt ggggggccc caacacatta acaactaaaa acagtcttca 17679876
ctagaatcct tttgctgagc cccctcgcct ccccctgcct ggtcgcaggc 17679826
taattccggc ctgggctgct gtggacggac tatcctggcc gctgagcctc 17679776
ccattgtgtt cctaagtctc agtaacaaag gctgctcgcg ggtagcaacg 17679726
gtcgttaggc gggctttatc tcctgggctc cggccccttc ccccacggca 17679676
gagtctgagg cccagactgg gtcccctgag tcttttagcat ggggctcttc 17679626
caagaccccg gagggttatc cacaggggat ggccctgctg gcacttatgg 17679576
aggggagagc ttatgggaga cacgtcggtg gcagagaacc tgtgacagtc 17679526
gttcccagac gttttctaag acgttgcgt tcatacagta agcatttcta 17679476
gtgctccctg taccgcgct ccccagcccc catgcttttg cctggattct 17679426
tagcagacct ttcattcaaa attccatttg gctccttgct gaatgaagcg 17679376
aacctgtgt catgttgctg gtgtcgtctt acgagaacac gcaccctctt 17679326
aactgctccc tttttgacag gactcatccg actatgctgt cattgtgcta 17679276
tttactgtc tgtcgattgg aacagtggca gatcttcagc ccagctgtat 17679226

atcgcacct agcaccacct gggagattac aaacaccaag cttctacccc 17679176
acagattctg atttggttgc tctgggtgg gacacaggca tttttcctct 17679126
ccttgagtga tgccaatgtg ccgccagggc tgagatgtca ctctagtac 17679076
tgtcaccttt ctacaggagg gggcaggggc ctcctgatga caggagacaa 17679026
ctcagggcaa gcaaaattct gaaatgtggt cggcctccag cccactaat 17678976
tatgcagggg tactgagttt ctcaattttt ttgttttttt tttttttgag 17678926
acggagtttc gttcttgttg cccagactgg agtgcaatgg tgcaatcttg 17678876
gctcacccga acctccgcct cccgggttca agcgattctc ctgcctcagc 17678826
ctccccagta gctgggaata caggcatgtg ccaccacacc cggctaattt 17678776
tctattttta gtagagacgg ggtttctcca tgttggtcag gctggtctcg 17678726
aattcgtgac ctcaggtgat ccgccgcct tggcctcca aagtgctagg 17678676
attataggcg tgagccaccg tgctcagcct tctcaaactt ttaaagcctc 17678626
aaaatcctta tctgtaaaat gagacctacc tcatagtgtg gttttgaggg 17678576
ttaaatagaga ttatggcata aagccccctg catatgcctg gcatgtagta 17678526
gaagctcaac acttcttaag tgaatgatac tctggtagtg aaagctgagt 17678476
gaaactgccg gtactggcca ggtgcagtg ctcatgcctg tagtcccagc 17678426
actttgggag atggtggcag gtgaatccct tgagctcagg agttcgagac 17678376
cagcctaggc aacatggcaa aacccttgtc tctacaaaac aggacaaaac 17678326
aaaataatta gccaggtatg gtggtatgca cctgtggtcc cagttactca 17678276
agaggctgag gtgggaggat cacctgagcc tggaaattca aggctgttca 17678226
agatcatgcc actgcactgc agcctgggcc gcagagtgag accctgtctc 17678176
agacaaaaaa aaaaaagaaa aaaaagaaag aaagaaaaaa agaaattgcg 17678126
agtccttght tctgttctga tacaaccag ttgtatgacc tttacagcac 17678076
tctgctccca aatttcccca tgaaccaatc tgtcgtccag gctggagtgc 17678026
agtggtgca tcttggctca ctgcaacctc tgcctcctgg gttcaagtga 17677976
ttctcctgcc tcagcctccc gagtagttgg gattacaggt gcccatcacc 17677926
atgcccggct aatttttgta tttttagtag agacggggtt tcgcatggt 17677876
ggccaggctg ctcttgaact cctgacctca ggtgattcgc ctgcctcggc 17677826

ctcctaaaagt gctgggatta caggcataag ccacatgcc aggcctcaga 17677776
gatcttcttt taagcagagt tgtcatttgt taatattttt taaaggttat 17677726
ttctttggtc tcccttctat tctgctggca tgactccacc taccactccg 17677676
ccaacaactg tctatttgcc cttgctgcct gggccttagt acttttaaaa 17677626
ctcctgtgga cagcactctc cttgaattaa tatttattta tggagctcct 17677576
gctctggtgc cataggagag gaggtgggga gagtaaaact gcaaggactc 17677526
taccctggag gagcctcaa tctagctggg ggggtgtggc aggagactca 17677476
gtaatgacag ggtggtcaag gtcaggacag aaccctattc ttccctgctg 17677426
tgaaccagct ggatgagtcc aagacaactg caggtaacaa ttgtgggttg 17677376
ggttaacaca gtggttctcc aactttctgg tcccagaacc tctttatatt 17677326
cttaaaaatt tttgttaatt tcaaacgcct tttatttatg tggattatat 17677276
ctattgatat atcctgtatt agatgttaaa attaagaaat ttccttttt 17677226
tttttttttt ttgggatgga gtttacttt tgttgcctag gctggagtac 17677176
aatggcacac aatcttggct cactgcaacc tccgcttcct gggttcaagt 17677126
gattctcctg catcagcctc ccgagtagct gggattacag caaatttttg 17677076
tatttttagt agagaagggg tttcaccatg ttggccaggc tggccaactg 17677026
acatcagggtg atccactcgc cttggcccc caaagtgctg ggattacagg 17676976
tgtgagctat tgcaccagc caaaattaag aaattttctt gccgggcgca 17676926
gtggctcatg cctgtaatcc cagcgcttg ggaggctgag gcgagcagat 17676876
catgaggtca ggagttcaag accagcctga ccagcatggc gaaacccctg 17676826
ctctaccaga aatacaaaaa aatagccagg cgtggtggca tgtgcctgta 17676776
atcccagcta ctccgggagtc gtgcttgaac ccaggaggtg gaggttaaag 17676726
tgagccgaga tcgcaccact gcactccagc ctgggtgaca gagcgagact 17676676
ccgtctcaa aaaaaaaaaa aaaaggaaag aaattattct aaatacaaac 17676626
acataatcca tgattggcat tatcggctag aatgatatga cacatgatgc 17676576
agcttcagga aaattctact gtacatccat gagagaataa gagtgaaca 17676526
gacagtgaac caagattgca ccaccacact ccagcctgga cgacacggca 17676476
agactgttgc aaaataaaaag ttaaaaaaa tttttttgtt ttgttttgtt 17676426

tttttttgag acggagtctt gctctgtcgc ccaggctgga gtgcagtggc 17676376
gcgatctcag ctcaactcaa cctccaactc ccgggttcaa gcgattctcc 17676326
tgcctcagcc tccccagtag ctgggattac aggcgcccac caccacgccc 17676276
ggctaattgt tgtattttta gtagagatga ggtttcacca tgttgccag 17676226
gatagtctcc aactcctgac ctcaaggatg ttgcccaggg tgatctgcct 17676176
ccgcctccca aagtgcctggg attacaggca tgagccatca cacccggcct 17676126
aagaatttgc tatgtgcaca gatagatgca ggccttcctt gaaaagacgt 17676076
gaagcaccaa agaagttaga gtgagggctt atattccatt ttaacaactg 17676026
gtaataaatt gtgaagaagt gacaagatga aggaaaaggg gtttgggctt 17675976
ctagggacag taaattgtgg gcaggcaaac atatggggga aactaatgga 17675926
agataagggc aattttataa ggctggtttg tgagaccca tcttggtaac 17675876
aactttctgt ttccggtggg aagggtgatt ctccctgtac gggagagggg 17675826
aggcgacac cttcaciaag gaaatntag gcagatgagg tgggcaaaga 17675776
gctctttctt catttgctgc ttcttaattg ccttcagcta aaaatatttc 17675726
ttctgctaaa gtggcctatt gggtgacata ttctgaccct cttcagtaaa 17675676
taataataat aatagacaat actagatcct gaatgaacag tacctaaggt 17675626
tcttccttct ggcacgctct ggcagcctta aagttcagta gccctgagc 17675576
atggctgtgc caggtcaggc agtcagggaa actgcccagc cagagtgagt 17675526
ggcctggcca ggtgcagggt gtggggggct gtgtgacgtg ccaggcttca 17675476
tgggggcagc agaggaaaca gaagagcaaa gaccagtgga ggcctcact 17675426
gcctgctccc cactgcgcc tgcccaggca gcggggcagc accctggaga 17675376
tgagagagca gcagtactgt tctgcaggcc tgggggaatg cggggatctg 17675326
agggactgcc cagagacaaa ggacacacaa tggccgcagc ctggaggggt 17675276
gtgggaggcc cctaggctgg ggagacagga gtgaggcaag gggctggtgg 17675226
gaaatgagca gaggaggtgg actcccaagg gccatttcc tgagatgcca 17675176
cagaggcaag agccgactcc cgggaggagg aagggcattt ctcccttagt 17675126
gaggggacag ctccctggctc cactgcagc tctcaacctc ggctccttga 17675076
acccccgccc ccaggcagct ctgactctg tgtggagcca ccattccctt 17675026

ggtcaggact agcaaccttc tctgacccat ccagtcacaa caaactgctt 17674976
cttcttttga gaggtcatgt gcttctcttt agcacttatt ctattgtttc 17674926
tttttttttt ttttttcatt cttttttaca gacaggaact cactcattgc 17674876
ccaggctggg cttgacctcc tgggctcaag tgatcctcct gcctcggcct 17674826
cccaaagtgc tgggattaca ggcgtgagct ctttttagtg ggtcaggctc 17674776
atctctctga ccctattgtc actcctgagg gcagctatct tgtctattag 17674726
cattttttca tcccttccaa tgcccagccc tgttcctttt atatcataag 17674676
ggcttaactg atgcatgga agtaatcgac atctccatat tattgctccc 17674626
tgtctccttc accccacagt ctctgcagaa attcccacat cttttttttt 17674576
tttttttagt ttttttttaa ggtggagtct cgctctgtca cccaggctgg 17674526
agtgcaatgg cgcgatcttg gctcacagca acctctgcct cctgggttca 17674476
agcgattatc ctgcctcagc ctcccgagtg gctgggacta ctacaggcac 17674426
gcaccaccac acccggttaa tttttgtatt tttagtagag acgaggtttc 17674376
accatattgg ccaggctggg ctggaactca tgacctcgtg atccaccac 17674326
ctcgaccgcc caaagtgctg ggattacagg cgtgagccac cgcgctgtcc 17674276
tttttttttt tttttttttt tttttttgca gtttttacgg ttttatttaa 17674226
acacaaaaag gggacatgag ctgtctactc attttctttg ctgcgcagcc 17674176
tggcattggg gttggtgact ctgatgacca gctgggcagc tctttccacg 17674126
atggcttcgt ggttcttaga ggaaacgttg tgagcgatgt cagcacaggg 17674076
agattgttgc acatcagcag cacttccagc tccttgatgt tgtggaccag 17674026
gaacttctgg aagccactgg gcagcgtgtt ctttgttttt ttttgttgct 17673976
cccataacca ctggtgggca tcgagatctg gcccttgaac cttctatgaa 17673926
ccccgttggt aatacctctg ggtttccgcc agttacggtt aattttgacg 17673876
tattggtcag accggtgcca gatgaacttt ttggttctct ttttgacaat 17673826
caggcttcac aaggggtctg aggggtggcca tgatgccaaa gaggagatgg 17673776
ctgccacttc tgtaggcagc gccgaggaag agagagggcc cccccttttt 17673726
ttttttcgag acagagtctt gctttgtcgc ccaggctgga gtgcagtggg 17673676
atgatcttgg ctcaactgcaa cctctgcctc ccgggttcaa gcgattctcc 17673626

tgctcagcc tccccagtag ctgagattaa caggcatgtg ccacatgcc 17673576
cagctaactct tgtatTTTTG gtagagatgg gggtttcacc atgttggcca 17673526
ggctggctctt gaactcctga cctcaagtga tccccctgcc tcggcctccc 17673476
aaagtgctat gattacaggt gtgagccacc tttccccatt acacacctcc 17673426
cttcccttag cttccttgtc acctgcccac tcccactct cccactctg 17673376
ctctcactgt gtcccccttg ctgtccctgg tggcagtggc cgccttgag 17673326
ctgctgcacc tggagttagg gaagcagtgg ggagtgagc aggtagtggg 17673276
gaatgacgtc attctcagat cactcttct agctttcatc ctctcccccc 17673226
gtgacctgct cttcaacat tatgcagat cttaatgggc acctaccctc 17673176
gcgtgtgcca tgtgctgttt taagtgcagt gaccagcaa tgaaggagac 17673126
aggtgggcat cagcatcagg gttatcccag agccagctag gaattcccca 17673076
tgcagcagca gagacaatgc ccaaggccgt agaggacctg aacaagggaa 17673026
gcacaagtcc agcctggctg gacttttggg aacaaggcca cttggcctaa 17672976
tccaaacaca aataaaaactg ttttgtgggt cccctgacc catctacttt 17672926
tcccagagct cgttgatggc tgggaaggag ttgactggga aggaggtggc 17672876
tgggcaaggg tggctgggca ggggtggctg ggcaagggtg gctgggaag 17672826
gggtggctggg aaggggggtg ttgggcaggg gtggctggcc aggggtggct 17672776
gggcaggggt ggctgggaag ggggtggcgt ctctcactgc tcacctgacg 17672726
gctcctgggt gtgctttctt cccagGTGTA TGAGCTCAGT GGAGAGCACC 17672676
ATGACGAAGA GTGGTCAGTG AAGACTTACC AGGAAGTAGC TCAGAAGTTT 17672626 [D261Pfs*2](#) [W264S](#) [W264Ter](#) [S265X](#)
GTGGAAACTC ACCCTGAGTT TATTGGAATC AAAATCATT ATT~~C~~GATCA 17672576 [F283L](#) [S291L](#)
CAGgtgagag agaatattgc tgaaaagctc gggttgggag gctgggatgc 17672526
aggcagagct actaggctgg gaggggaggg gtgagaagcg gggctgggag 17672476
gccgggagag gccagcact ggtgccaagg agctgtgctg tgcctgtgtg 17672426
agagcacagt cctaggtaag tgcggtgacc caacaatgaa ttgctgcctg 17672376
aagccacttc tagttcaggt cttaccccc aaactgaaat gaagaatgtg 17672326
tgaatttccc agataattct cggctgtgac cccacattgg cctggtgact 17672276
catttatgag cataatggtt ttgcctgaat gtttgataa ttggcccgtt 17672226

tttggtttca atttgcctct gggttctgtg tgtggttgtg tgtgagtcct 17672176
tgatcacgga gacaccctga gtggcactgg ctcaagtctg cgtgtgggga 17672126
cctccagtag taccatgtgc gtggcctggc acgtgggtga aagaccact 17672076
ctttttccca ggggaagcaca gaaagctttg cagcttaatt gtccttctga 17672026
ctttaccaga caagaccctt cccctcactt taaagagcag ccagtctaag 17671976
gctgggacct gtccatggtc gcagctgcaa gggcagcagc cagtggggtc 17671926
cctcggagtc aggcacgggg cgggcaccga agggatccgg cagcggctcc 17671876
ctctgctcag ctcacccacg agcctgggct ctggagggca ctgactcccc 17671826
aggagcctcc tcccatgccc agtcttcctg agtccccttc ccttccatgg 17671776
ggcctggggc ctggaggagc taagctctgg ctttgtgccg gtccccctag 17671726
gagggagctt gcaggatggg cccacgttct gctcagaggc tccctggtgc 17671676
caggtgcccc ttcccagggc cagtggcagg aggggtgtgag ggctgagctg 17671626
agtgcacag tgccccaggg tttgcctagg ctctggggag aggccatggg 17671576
tggggcaggc caggaaggct ttatccccac agagccgagg attggagcag 17671526
gagagccagt ggcagggcaa agaccttgag cctgtcgtgg gcttgcgcca 17671476
gaccctgtgt tttggggctt ttgttgtcat gctgcctgcc ttgccctgt 17671426
agggttctgc agtaccaggg atcttgcctga cttaatcagc aagaggccat 17671376
atggttactg ggtccagccg acccatcagg gacttgggtg acctgtggcc 17671326
ctttgcaggt gtgcagtgga cagagagctg cccctgagct gcatccatgt 17671276
ctacaccccc gacagagatg cagggagagc tgggaacaag gccacctggc 17671226
ctcctctaaa cgcagacaaa taaaactgtt cccgtgggtc ctctgacccc 17671176
atctactttt cagagactac aggtgcccc agagccagca agggctcttg 17671126
ataagaatgg atttgggcta catatctctc agggatcaca atggcctggt 17671076
caggggtgggg tcaggagggc aggggtgcct caggtttggg aaacgggacc 17671026
tgcacacttg gggctggccc agccctgcac ggaggggtgtg ctctgggggt 17670976
tgtgctctgt cgggtgctggg cactgtctcc tggcttctct gtctgtctca 17670926
cagATCCAAA GATGTGGCTG TCATCGCAGA ATCCATCCGA ATGGCCATGG 17670876 [c.882-2A>G](#) [R306*](#) [M309I](#)
GGCTCCGAAT CAAGTTCCCC ACGGTGGTGG CAGGTTTGA CCTGgtacc 17670826 [L311R](#) [R312ter](#) [T317M](#) [G321E](#) [G321A](#) [c.972+3A>G](#)

catgctgtga acagaagggc tgcctgttaa gggggcatgc gaggatgcct 17670776
gtctgggtgg agcggcaact ccctgggaag ggagcgcaat gtgcctgttg 17670726
gtaccctgac atcccagggc aggctcaggc tgctgacaca gcagggctgc 17670676
tcagagctca gcgctgaccc tcttcagagg cctacagggg acggctgtca 17670626
ctggagaagg gagagcagac agccagttct aacaagctaa caaggaaagt 17670576
tccagaataa ggatggcatt caggagttt ggaccacagt tatgggctca 17670526
ttccccatgg ccctgcctgt gccctttttt ctatcccaca ctgctcacct 17670476
aggtgtgggt cttaaaacc tcaccagccc ctgtagcacg cggggtgggg 17670426
actgggggggt aatgtctgga aacagagtcc aggatggagc caggcctttg 17670376
caaatcctca aggtagtgat atttgtccct ccctctccag ccatcatgcc 17670326
tggccacacc agtttttgaa gctacacatt cataggtgtt gtcattgtcc 17670276
cacacctccc caccaaactg aagcacaacc aggacatttc ttaggtgaca 17670226
gctcggcaat ctcataaaga atctaggccg ggtgcagtgg ctcatgccct 17670176
cagcactttg ggagggcgag acaggtggat cacctgaggt ctgaagttca 17670126
agaccagcct ggccaacatg gagaaaccgc atcttacta aaaacacaaa 17670076
aattagccag ccttgggtggc ctgcacctgt aatcccagct acttgggagg 17670026
ctgaggcaga atcacttgaa ctcaggaggc agaggttgca gtgagctgag 17669976
attgcacat tgcaactccag cctgggagac agagcaagac tccatctcaa 17669926
aaaaaaaaa aaaaaagaat ctagattagt ccagggcagt ggctcactcc 17669876
tgtaatcca gcaccttggg gggccaaggt gggagggtca cctgagtcca 17669826
ggagttctag accagcctga gcaaatcggg gagaccccgt ctttacaaaa 17669776
tatatatata tatatatattt ttgctcttgg ccaggctgta gtgcattggg 17669726
gtgatctcag ctcactgcaa gttctgcctc ctgggttcat gccattctcc 17669676
tgcctcagcc tcccaagtag ctgggactac aggcacccgc taccacacct 17669626 [V325Tfs*](#)
ggataatattt ttgtattttt agtagagatg gggtttctact gtgttagcca 17669576
ggatgggtctc gatctcctga cttcgtgatc tgcctgcctc ggcctcccaa 17669526
agtgcctggga ttacaggtgt gagccaccac gcctggcctg ctctgtgtca 17669476
ttcttaaaag gctgtgtgac aaaggtcccc gcagtgggtg cagggtacaa 17669426

ggaaggggtgt gcacaggctc cagggcgcgc catcagcaag tgaggcatgc 17669376 [c.973-69C->G](#)
gccctgcaga cacctccctg tccctctctg tcctgcagGT [GGGGCATGAG](#) 17669326 [c.973-2A>G](#) [c.973-1G>A](#) [delEx7](#) [Dup Exon7](#) [G326V](#) [E328K](#) [E328D](#) [D329N](#)
[GACACTGGCC](#) [ACTCCTTGCA](#) [TGACTACAAG](#) [GAAGCTCTGA](#) [TGATCCCCGC](#) 17669276 [H335R](#) [P344L](#)
[CAAGGATGGC](#) [GTTAAGCTGC](#) [CTTACTTCTT](#) [CCACGCCGGA](#) [GAAACAG](#)gtg 17669226 [V349I](#) [L351Q](#) [Y353H](#) [F355L](#) [A357T](#) [G358R](#) [T119A](#)
agcctgcggg atgcgagcag aggcagcgga ggtggtcaat gggagagctc 17669176 [c.1081+30C->A](#)
ctggccacag gcccatgcct cagggttaga gcctacaggc gtttccagag 17669126
ccctttcctg tgctctatct cacttaatcc tgacaacagc cccatggaga 17669076 [c.\(1081+139_1082-92\)del](#)
aggaataaca aggataatag aatcagccac tttacatgta ttatttctag 17669026
tttctctttc ttctttcctt cctgttttct tttcttcttc ttcttttttt 17668976
ttcttttttt tacggagtct ccctctgtcg cccagctcac tgcaacctcg 17668926
gcttcccagg ttcaagagag tctcctgcct cagcctcca agtagctggt 17668876
actacaggca cctgccacca cgcctggcta attttttgta tttttagtag 17668826
agacgggggtt tcaccgtggt agccaggatg gtcttgatct cctgacctca 17668776
tgatctgcc tcctcggcct cccaaagtgc tggaattaca agggtgagcc 17668726
actgcgcctg gccttttcta attgatttct gattgtttcc ccagttttta 17668676
atctccattt gatagatgaa gagcccaagg ctccaaacac agtgggtccag 17668626
ggttaaagag ctggtgcgca gtggagtctg aatttgaatc cttcttcttc 17668576
ttcttttttt tttttttttt aatttttctg ggtaggggca taatcctgca 17668526
aactcacatc atcctacttt ggctataaaa attcgtttta ggctgggcac 17668476
aggcacagtg gctcatgcct gtaatcctag cactttggag gctgatgtgg 17668426
gtggatctct ttaaaccag gagtttgagg ccagccaggg caacatggca 17668376
aaactttgtc tctacaaaaa aatacaaaaa ttagccaggc atgatggtac 17668326
acacctgtgg tcccacctac ttagaggctg aggtgggagg attgcctgag 17668276
cccaggctca ctgaactcca gcctgggtga cagagctaga ccctgtctca 17668226
aaaaaaaaag tgttttagcc aggtacagtg gctcacatct gtaattctag 17668176
cacttaggga ggagaggca ggaggatcac ttgagcccag gagtttgaga 17668126
ccagtctggg caacatagta agattccatt ctacacaaaa aggaaaacaa 17668076
attttttttt tttttttttg agatggagtc tcgctctgtg gccaggctg 17668026

gagtgcagtg gtatgatctc ggctcacttg caagctcggc ttcctgggtt 17667976
catgccattc tcctgcctca gcctcccaag tagctgggac tacaggtgcc 17667926
cgccaccacg cccggctaata tttttgtatt tttagtagag acgaggtttc 17667876
actgtgtagg ccaggatggg ctcgatcgcc tgaccttgtg atccaccctg 17667826
ctaggcctcc caaagtgctg ggattacagg tgtgagccac tgcacctggt 17667776
caattttttt gttttttgag atggagtctc actctgtcac ccaggctgga 17667726
gtgcagtggt gcgatcttgg ctactgcaa cctctgcctc ccgggttcaa 17667676
gtgattcttc tgcctcagcc tctggagaag ctgggattac gggcatgcac 17667626
caccatgcct agctaatttt tgtattttta gtagagatgg ggtttcacca 17667576 [DelEx8-9-10](#)
tgttggtagg gctggctctg aactcctgac ctcaagtgat ccaccacct 17667526
cagcctccca aatgctggg attacaggct tgagccacgg aaaaaattc 17667476
ttttgagaca gactcttact gtatcgccca ggctggagtg cagtgggtgcg 17667426
atctcggctc actgcaacct ctggctgcca ggttcaagtg attctcgtgc 17667376
ctcagcctcc cgagtagctg ggattacagg cgcccaccaa cacaccggc 17667326
taatttttgt atttttaata gggatagggt ttcacatgt tggcccaggc 17667276
tggctctgaa ctcccaacct caaacaatcc acccgccttg gcctcccaaa 17667226
gtgctgggat taccggcct catgtgatat tttgatgcct gtatataatg 17667176
tgtatgaatt ggaacacttt ctgacgtct ccatcctccg agtgaattgt 17667126
gcttgagagg ttaactgatc tgcctaaagc cacacagctg gaaattggca 17667076
gaagagggag gagaaccagg tctgctcctt gtcttttagga tgttctgtcc 17667026
cgcattatcg taggagagga aaccctgccc tgccccatgc aggcctggc 17666976
tgctgttccct cctgaaacgc catcagccca gccacatctt tctttcccag 17666926
aactccatcc ttgggctcgc tcagtcactc cagcccctcc cgtattccag 17666876
tccttaaaat gtgtaaacc taactaagaa agatcacggc tgcaatttca 17666826
gatccaaagg aagatttggg aggaggctgt tcacatggag gccgggacca 17666776
ggagggcagc tctcttcagc atcccactg tcaccctcgg aagaccaaag 17666726
aggggtggag agagtgggtg gcaatttcat tcccacca ggcttaagct 17666676
ctgctctatc acaccttctc tcagagaaag ggaccttgtg cattaatctc 17666626

tttttcctga catttcgagt caatttagat ccaatttaga tcaaagtctg 17666576
ctctaggaga gcagaagaat tgtttgaggg ggagggggtt gggcgagggt 17666526
gttgттаacc ttgaagagct tgtggtctgg ttggggaaaa tcatacttat 17666476
gtgtgtgaaa taattctggc cctacaaaac attgcagctc aggacctaac 17666426
aggttccaag atgtatggtc cttggagatg attttgccag gacttgggta 17666376
tctaatacct aaaagtaatg tccttatttt tattttttta ttttatttta 17666326
ttttatttta ttttattttt tgagacggag tctcgctctg tccccaggct 17666276
ggagtgcagt ggcacgatct caactcactg caagctccgc ctcccagggt 17666226
cacgccattc tcctgcctca gcctcccag tagctgggac tactcgggcg 17666176
cctgccacca cgcccggcta atattttttg tatttttagt agagacgggg 17666126
tttcaccatg ttggtcatgc tgggccgaa ctcctaacct cgtgatccgc 17666076
ccacctcggc ctccc aaagt ggtgggatta caggtgtgag ccaccacacc 17666026
cggccaatat ccttattttt aaaaagaaaa agaaatcttt aaaaaccagt 17665976
gaaaatccac caaaacacat gtgctacata gcaatggaaa ttcttgagtt 17665926
ttatttctat caggaaagtg gagttttcat atatatatat atatatatat 17665876
attttgacat gggcactctg tcaccaggc tagagtgcgg tgggtgtgatg 17665826
acagctcact acagcctcca cctctgtcac ccaggctaga gtgtggtggc 17665776
gtgatcacag ctactacag cctccacctc ctgggttcag gttatccttc 17665726
cacctcagcc tcctaagtag ctgggactgc agccacatgc caccatgcct 17665676
ggctaatttt tgtatttttt gtagagacag ggtgtctcta tgttgccat 17665626
ggctggcctt gaactcctgg gctcaagcaa tcctcctgcc tcagcctccc 17665576
aaagtgtgc gattacagggt gtgagccacc gcaccagcc agatgttcat 17665526
attttatatg tgaatccatt agaatgctta tggctgcaag aatagagtac 17665476
atgcatccca ccgattttac aataaggaca tttgttatct cacgtaagaa 17665426
gcaatctgtg ctatgcccat tgtgtgggtg attctgcccc acttggttgt 17665376
cggatggtga atcacatttg ggtgaccac atccagtga gcaaaatagg 17665326
agacagcctc ccagtggatc cccttttatc agggaggaat ccccaaagc 17665276
tccccaaaca ataacctccc agtccagcgt taaggctatt ttagctgtaa 17665226

gggagactga gaaaggcaca tctgacctt catcctctac cgagggccct 17665176
agctgcaaga aaggtgtgat ggggccgggc gtggtggctc acgcctgtaa 17665126
tcccagcact ttgggaggct gaggcaggct gatcacaagg tcaggatgatc 17665076
gagaccatcc tggctaacac agtgaaccc tgtctctact aaaaatacaa 17665026
aaaaaaaaat cagctgggtg tggtaggggg cgcctgtagt cccagctact 17664976
tgggaggctg aggcaggaga atggcatgaa ccccgggaag tggagcttgc 17664926
agttagccga gactgcacca ctgcactcca gcctgggtga cagagcgaga 17664876
ctccatctca aaaaaaaaaa aaaaaaaaaa gaaaggtgtg atggggatgg 17664826
caggggagaa gggaggccac aagactgtct gcggtcatct agcgagtgat 17664776
aacatcttga cagtactatt aaatatataa attaaagtga gcacatacag 17664726
gtagttatac tgatgttgtc aataagagaa cctgtaacat attgttgtaa 17664676
agatcataag cataagagtc ccagagcccc gtgcggtggc tcatgcctat 17664626
aatcacagca ctttgggagg cctaggcggg tggatcccct gaggtcagga 17664576
gtttgagacc ggcctggccg acatggtgaa acccctctc tactaaaaat 17664526
acaaaaaata gccgggcatg gtggtgggca cctgtaatcc cagctactca 17664476
ggaggctgag gcaggagaat ccgcttgaac ccgggaggcg gaggttgagc 17664426
tgagccaaga ttacgccact gcattccagc ctgggcgaca gagcaagact 17664376
ccgtctcaaa aaaaaaaaaa aaaaaaaaaa agtgccacaa aagaggaaga 17664326
aggaaagcgg actgtggggt cagagagacg aaggtttaa actcagtttt 17664276
gcaggccagg tgcggcggct cacgcctgta atcccagcac tttgggaggc 17664226
tgaggcaggt ggatcacgag gtcaagaaat caagaccatc ctggccaaca 17664176
tggtgaaacc ctgtctctac taaaaataca aaaaattatc tgggcgtggt 17664126
ggcgtgtgcc cgtagtccca gctactcagg aggctgaggc aggaaaattg 17664076
tttgaacctg ggagggtggag gttgcagtga gctgagatcg tgccactgta 17664026
ctccagcctg gcgacagagc aagactgtgt ctcaaaaaac aacaacaaca 17663976
acaacaaaaa actcggtttt gctacttact gtgtgaacat ccttgggtcaa 17663926
tttataagaag ctattaagtt tcaactttct cattagaatg ataaattaat 17663876
aaattagatg attaatttaa taaagccata tcatacctct ctttagcatt 17663826

gttaaaagga aactgtgtgt gtgtatttgt gttaatgta atttctcttc 17663776
atTTTTgtgc ttggggggct gtttatttga ggatggtcgg ggggcgggtg 17663726
ggtcagaccc atccatcccc catggaagac cagacccatc catcccccat 17663676
ggaagacat tcccgtgtgt tcagACTGGC AGGGTACTTC CATAGACAGG 17663626
AAcATTCTGG ATGCTCTGAT GCTGAACACT ACCAGAATCG GCCATGGATT 17663576 N370K G142S G383D
TGCTTTGAGC AAACA_CCCCG CAGTCAGGAC TTA CTCTCTGG AAAAAGGACA 17663526 H391Q W399X
TCCCCA TAGA AGTCTGTCCC ATCTCTAACC AGgtatgtgt gaccatgtgt 17663476 I405L C408Y P409S P409H
gctaatacca tatgatctcc cctaaccaca acctctgtct tcttaaactt 17663426
tttgctgtat aacttatctc tccttaactc tcttgttacc tacatccctc 17663376
cactctccta cccctgtag taaagttatt caggaggggc cttttgccta 17663326
agccaccaat aagaatgagg cagcagtgag ggtccccagt ggggtggaat 17663276
tttgggcaag actgtagaca aagcaaaaag gacatggggg gaggccagt 17663226
aagtgggacg gaccatggga tgctgctccc catggtttct tggggtcctt 17663176
tgtgtctgtg ttcagtttag ctttctctga gcaggaacag aagtgacccg 17663126
atgtttgcag tgctgatgaa acatgaggag gagcataagg actggctctg 17663076
ttccttatgt ctcttctgtga ctctgccag aagtcacccc catactgggg 17663026
agatagtgat ggaagatga agggagctga tggggctcaa ggtctcacct 17662976
cacttgtagac tactcttttt agggatcaga gttcatcttt ctcccttccc 17662926
tcctattgCG cagGTGCTGA AACTGGTGTC TGACTTGAGG AAC_CACC_CCTG 17662876 c.1240-5C>G V372M N423K P425A
TAGCCACTCT GATGGCCACT GGGCAC_CCCA TGGTGATCAG CTCTGATGAC 17662826 P435A M436T P443A
CCAGCTA_TGT TTGGTGCCAA AGGCTTGTC TATGATTTCT ATGAGGICTT 17662776 M445T F404S K449Nfs*2 G450C L451W L451F Y453C Y453Y D454H Y456C V458D
CA_TGGGCATT GGGGGGATGA AGGCTGACCT GAGGACCCTC AAACAGCTGG 17662726 p.(M460K) M465fsX K466Tfs*2
CCATGAAC_Tc TATCAAgtga gLgtccLgtg tcctcccagg tccccgcct 17662676 S479P 1442+6T>C c.1442+11T>C c.1442+31G>A
ccttccagcc cgcagcttgt gtttgcctct ctggaggctt gaggcagatg 17662626
cctcgatggt tcctgtgggt tccttctcat catggctgtt tagtccttgc 17662576
tgctggcctg gggagagtgc tctgcaaggc tctaatgtcc tctcaggctc 17662526
cctgccccgt tccccaaccc ctgccctgag gctgacctgg gctcctcctc 17662476
ttcctgCag TACAGTACCC TGTGGAGAG TGAGAAAAAT ACTTTCATGG 17662426 c.1443-2A>T Y482C S483Pfs* E489Q E489D

AAATCTGGAA GAAGAGATGG GATAAGTTCA TAGCAGATGT GGCTACAAAG 17662376 W501*
TGAGGAGAAG CTAGCCAGCC CTCTACAAGC TGTCTTCTTG CACACGCTGT 17662326
CACTTCCTCT CACTCGTTCT TGAATCAGCT CCATGTGCCC ATGAAATCAA 17662276
TGGCCTCTGT ATGGAGCGAC CCTGTGAGAA GCACTTGGCT GGCTGAGCAA 17662226
ATTCATCCTC TGGAATATT CTCTCTCAGC CACAGTGACA TTGACCCTCT 17662176 *159G>A
TGGTTTTCTC CTGTCTCTGG CCATTTCTTC CAGTTTCCCT ATTTTCAGAGT 17662126
CTTCTCCTCT CTCTGATCTC TGTGCTGTTT CCTCAGGACT CAGTCCTGGG 17662076
CTCTCTTCTA TTCTGGTCTC TTTATTTTTT TATTTTTGTA TTTTTTCGAG 17662026
ATGGAGTTTT GCTCTTGTG CCCAGGCTGG AGTACAATGG TGCATCTCA 17661976
GCTCAGTGCA ACCTCCGCCA CCCGGGTTC A GCAATTCTC TTGCATCAGC 17661926
CTCGCGAGTA GTTGGAAATTA TAGGCATGTG CCACCACACC CAGCTGATTT 17661876
TTGCATTTTT AGTAGAGACA GGTTTTACC ATGTTGGCGA GGCTGGTATC 17661826
CAACTCTTGA CCTCAGGTGA TCCACTCGCC CCTTGGCTCC CAAAGTGCTG 17661776
GAATTACAGG CATTAGCCAC CATGCCCTGGC CTATTCTGGT CTCTTTAACT 17661726
CTCTCCTCTT TATTTCTCTT CTCTCTCTGT ACACTTTTCC TGGGTGGTCT 17661676
CATCCATTCC TTTGCTTTTT CATAACATTT ATTTGTTAAT GATTCCCACA 17661626
TTTATTTATG CACTTGGAGA GCTCACAGGA ATCTCAGAAA CTGATGAGGT 17661576
ACAATTCTGA ACCCTCAGTC TCTTCCCTTT AAACCTTTCT TTTTCTCTAC 17661526
TTTAATTTTT CTAAAGAGTG TCTTGCTATG TTGCCAGGC TGGTCTCCAA 17661476
CTCAAGTGAT CCTCCTGCCG CAGTCTCCCG AAGTGCTGGG ATTACTGACA 17661426
TGAGCCACCA CACTCAGCCC TTTAAACCTT TCCCTGGCCT TTCCCATAGC 17661376
TGGTGAAGGA CACCTCCATC CATTCACGC AGTTGCTCAA AGCAGAAATT 17661326
TTCAGTGCAA GTCTTGATGC TGCGCCGTCC CCCACTCCCT ACATCAGAAC 17661276
GCATCCCTCA TCTGGACTCC AGCGGTGGCT TCTTGATGCT GCGCGGTCCC 17661226
CCACTCCCTA CATCAGAATG CATCCCGCAT CCAGACTCCA GCGGTGGTGC 17661176
TCTACCTGCA CGCTGTTGCC AAGTCCAAGC TACCATACTC CTGCCTGAGC 17661126
TATGACAACA GCCTCCTCAC TGATCTCCCC TTTCTTCCCT TTGCCTCCTC 17661076
CAGCTCATTT TTCACAGTGT AGAATGACAT TTTGTTTGTG TGTGTTTGTG 17661026

TGTTTGAGAT GGAGTCTCGC TCTGTTGCCC AGGGTGGAGT GCAGCGGTGC 17660976
GATCTCGGCT CACTGCAACC TCCACCTCCC GGGTTCAAGC GGATTCTCGT 17660926
GCCTCAGCCT CCTGAGTAGC TGGGATTACA GGCATGCACC ACCATGCCCC 17660876
GATAATTTTT GTATTTTTAG TAGAGATGGG GTTTCACTAT GTTGGCCAGG 17660826
CTGGTCTCGA ACACCTGACC TCGTGGTCCA CCCGCCTCGG CCTCCCAAAG 17660776
CACTGGGATT ACAGGCGTGA GCCACCCGGC CTGGCCTAGA ATGACTTTTA 17660726
AAAGATCAAA TTAAATCAGG TCACTCCTTT GCTTACAACG CAGTGCCTTT 17660676
AGAGGTACAC CCCATGTCTC CACAGGGCAT ACAGCATCCG ATTTAATCTG 17660626
GATCCATTCC GGCGCCCTCC TCTCCCAGTC ACCCAGAGGG CCCCACCCC 17660576
GGCGGCCCTT TCTTCTCAA ATGTCTCGG CTCTATACCG TGCCTGGGTC 17660526
TTTTCTCTTT CTCTCTGCCT GGAAGATTCC TTCTTTCCCC TTTTGTCTTG 17660476
CCCACCTCTG TTTACCCTTC AAGTTTCAAG TTCATGTCAC TGTCTCAGAG 17660426
AGGTTTTCCCT GTGCTCGCCC TGTTTCTCTC AGGAAGCCTT GCTCTTTTCC 17660376
ATCATGCCCT TAATCACAGC TTATAATCGG ATATTTATTT CTGTGTCTAC 17660326
AGTCTTGCCC TGCCAGACTG TATGCCCCAT GTGGGCAGGC GCTCATGATT 17660276
GTTTCTGATT GTTTCACGCA TGCTGCTAAC CCAGAGCCTG GGCCCAAAGC 17660226
TAGTTAGTAC TCAATAAACA ATGCATTGAA TGAGTGGCTG TCACTGTGTC 17660176
TGTTCAGCCA GCTGCCAAGG CAGAGGGGAG TAGAGCAGAG CCGCCCCAAA 17660126
TAAAAGACCT CATGTGATCA GAGTCCAGCT CCTCACCTGG CTTGGAAGA 17660076
AGGATGCAAG AAGCCACCTC TGTCCTCACC CAACTCAAGG ATGGCAGGGA 17660026
ATCAAAGAAT TCCTCAAAG CCCAGGCGA ATGTCTCTC ATCCATCTTC 17659976
CATGACCCTGT ACCTGAGCTC TCAGACAGCA GCAAGCCCTC TCTCCATTCC 17659926
TAGTTTATCA CCATTTGGTT CCTGGAACCTG GGAAAAACA GCAACCATAA 17659876
GCTGTGCCTG GATGGAAGAA GACAACCTCT AGGGTCCTGT CTAACCTCTG 17659826
AGGTGATTCA GTGCCTTACC CAATCCCTGA AGATCTTTTA GGTCCCAACT 17659776
GCGCAGGGGA CCTCCAACAC AGGCAGACGC AAACAGCCTC TGGCCTGGAC 17659726
TTGCTGTGAT CTCTGATTTG GCAAAAATGAA CCAGCAATAG TCTTGCctttt 17659676
gtgctttgtg tccagttctt ccttcttttt tttttttttt tttttttttt 17659626

gagacagagt gtctgttgcc caggctggag ggcaagtggcg cgaccttggc 17659576
taactgcaac ctctgcctcc cgggttcaag caattcttct gcctcagcct 17659526
ctcgagtagc tgggtttaca ggcacctgcc atcacgcctg gctaattttt 17659476
gtatttttag tagagacggg gtttactgt gttggctagg ctggtcttga 17659426
actcctgacc tcatgatctg cccgcctcgg cctcccaaag tgctgggatt 17659376
acaggtgtga gctgccacac ccggcctttt tttttttttt tttttttttt 17659326
ggagacagtg tctcactatg ttgctcaggc tgatcaactg atctcaaact 17659276
atggcctcaa gttatcctcc tgcctcagcc tcctggatac ctgggattac 17659226
aggcactagc caccacatcc agtctttaag cttttaaatt caacttacia 17659176
agcttgttag ttcttccttc ttgactttat tcctcattgc ataggcctag 17659126
tcctattgaa ctaaagtcc atggagcatt tatctgatca ttttgaata 17659076
atttcaaaaa gttgcaagaa tagtcaaaaa aactcttacc aggccaggca 17659026
caggggttca cgcctgtcat cccagcactt tgagaggccg aggcgagtgg 17658976
attgcttgag cccaggagtt tgagaccagc ttgggcaaca tggccagacc 17658926
tcctctctac taaaaataca aaaattagct gggcatggtg ggggtgtgcct 17658876
gtggtcctag ctattcagaa ggctgaggtg ggaggattgc ttgagcccag 17658826
gaagaggagg ttgtagtga ctgagatcac accactccac tccagcctgg 17658776
ccaataaagc gagaccctgt ctcaaaaaaa caaacaaaaa taacaacaac 17658726
aacaacacaa acctctaaca ttctctttgc ccaggttccc ccagtt

ADA2 (NC_000022.10, GRCh37) - gDNA - 2025-04-02

