



**TRNT1 (NC\_000003.12, GRCh38) - gDNA - 2026-05-25**

cacattttcg gccgggcgca gtggccgaat cccggcaaaa gtaatcccgg 3125989  
cacttttggg ggccgaggcc tggggaacac gaggtcagga gttcgagacc 3126039  
agttggccaa cacggcaaaa ccccgctctct actaaaaatt agccggggcgt 3126089  
ggtggcagac acctgtaatc ccagctactc gggaggccga ggcaggagca 3126139  
tcgcttgaaa ccggaaggcg gaggttgagc cgagcccaga tcgcgccacc 3126189  
gcactccagc ctgggcgaca agagcgaaac tccgtctcaa aaacaaaaca 3126239  
aaacaaaaac tacacatttt cgcactttaa gggctcaacg gctgtattcc 3126289  
cactcctttg ccactctctt tgctcttttc cgctctagaa agaattaatg 3126339  
aactggatca aatctaagtt ctccacgta cagatgggaa gcctccgggc 3126389  
caaggaggcc aatggttaca caaaccaggt aagaaaataa aatatgccca 3126439  
gtaagttcat aggaccggcg ggcttagatt tcgaatgcgc gtgactctgt 3126489  
caactgtgga cttaaccta tgcagagatt agaggagaga atagtcaaac 3126539  
acggataagt taacatttac cgaacagtcc gtccctacct ggggtagggt 3126589  
ttattaacag tctcgttttg caaaggaaga cagctgccag ttgtctcaga 3126639  
tcgcacgggc atgccgcgca gatgggcttc tgagcagctc agggccagcc 3126689  
agaggtctgg cgagaagggc gtaattaaac gaaccgcgc cggtttcctc 3126739  
agggccccc ggggctccgc ttcgccccag cgggcctcgg cggggctggg 3126789  
aaaccggctg aggttcgcct cacggtgggg aggagcgacg ggaggcggaa 3126839  
gcccttcggt ccgggccccg cccccgact cgcctcgc ccgccgcgac 3126889  
ttcccattcg ccgccaacc atgtgcggtg gtgacgtcac cgcgttcacc 3126939  
**AGCCCGGAAG TCGCGTGGC GGCGGTGGCG GCTGCGGCAA CAGCGGGGCC** 3126989  
Ggtaagcggg cgcgcgccgc tcagaggggc agagtgggtg gcgtgagttg 3127039

ctgccccttc cttcctgctg tgggccagag gcgccaccgc gcccggtcct 3127089  
cgaggaagac gggagcggga cgtggcgaga ggcctcctca gcagtgggca 3127139  
aaatagcccc gacgcggagg tcgtgtcccc gccacgtttc cggcgaccgc 3127189  
aggcgcggat tccttggtt ccctcagcac tttcccctcc gcgcggacgg 3127239  
ccccgagacg ctttttcaact gggccttgtc gccagcaccg ggcgtggggg 3127289  
gtgagacgcg ctttttcagg gctggggttc cccagagcgt tttcctaagt 3127339  
cgaggcggag gtgcgaggaa actgagtggt tctttccgcc ccacgtggcc 3127389  
tgccgggaag cgcggctcct ccacccgctt ccgtggaatg gaatggtttt 3127439  
tctctgcagg tttacaccgg ggtcactcga gagctgctgc ggcctcctta 3127489  
tgggcaggac ccccgtatgg ggagaacgag gatgtgatat gtagaagggg 3127539  
aggccgcggg gtgccagaaa tcagaggaga ttgcaagatg gcaggaaaag 3127589  
aatcaggaaa atgggggag caaaactaaa ttcattggaa aatacaatgt 3127639  
ctaggagcta tcccagggtc gtgaatcctc gagtgcagggt ggggaagtag 3127689  
ggtgataccc acctgtgacc atgacaagtt ttggagacca gaaactcggg 3127739  
tagagtttct agaaccccg atccctctca tactgcctga agccctgctc 3127789  
tggggagagt gtcattcacag taccatgtgg catgcgagtg tcgtggtaat 3127839  
gctccccgac caaaccacca aaccgagggt tgggctgctt attctcgtg 3127889  
cccaataatg agatgcagat aaactaggaa agaaaggagt ttatttctgt 3127939  
aaccaggtag ggggcgaagg cgtggaaaat atcccagacc gactcagaat 3127989  
tacagagctt tccagagctt atataccttg taagtgtat gtttatgtgt 3128039  
aagtgtgcat tgatctaaag atacaagtga ttaacttctt acccataaga 3128089  
tctgagtcct gaagacctc ctctggagcc tgagtaaatt tacttaatct 3128139  
aaatgggtcc aggtgctggg gtgattacc tttatattctc tcctgctaaa 3128189  
tcatggagggt ttggggagtt ccctcagacc cctaataaac ttgttcgtgg 3128239  
aggcctgggg agtttcctca gatccccagt aaaacttggt taattctaaa 3128289  
cgggtcctgt taagaattcc tttgtggccg ggctcagtg ctcacgcctg 3128339  
taatcccagc actttgggag gctgaggcgg gcagatcact tgaggtcagg 3128389  
agttcgagag cagtctggcc aacgtggtaa aaccccgctc ctaccagaa 3128439

gtataaaaaa ttagccgat gtggtggtgt ggcctgtaa tccctgctac 3128489  
ttgggatgct gaggcaggag aatctcttga acccaggagg caggggttgc 3128539  
agtgagctga gatcgcgcca ctgcactccc gcctgagcga cagagcgaga 3128589  
ctccatctca aaaaaaaaaa aaaaaaaaaa aagaattcct ttgttatttt 3128639  
atcatgcttc aaggccagg aaaggcctag gcaaaactct tggggggctt 3128689  
ttgttacatt ctagccttgt ttaagggcac tggctggctc tttcagcttt 3128739  
taatatgtaa ctcaaccagt cagtcagtac tgaacagtt atggaggcct 3128789  
gcgctagtga gaccccgct gccacagtaa gtgcttctgg agaacaaaac 3128839  
caggtagata catagaccta gtcgtaatcc ctcaaactga caccgttttc 3128889  
agttttttca tctgaacaag agatgaattt ctgagttgat aaactgaaa 3128939  
tgtgtcccc tttgttttcc ttcacttacc ttcactttta atttcattgg 3128989  
tatgcctgtg tatttgcctt gtagATGTGT AGTTGGTGAC TGCCTCTCCA 3129039  
GATGCTGAGG TGCCTGTATC ATTGGCACAG GCCAGTGCTG AACCGTAGGT 3129089  
GGAGTAGGCT GTGCCCTCCG AAGCAGTATC TATTCACAAT GAAGTTGCAG 3129139 M30V  
TCTCCCGAAT TCCAGTCACT TTTACAGAA GGA CTGAAGA GTC T GACAGg 3129189 c.126\_128delAGA T49\*  
tgagagatta ggataccttt tcttgattgg aaacctatat aaatggagaa 3129239  
gtagagggtt aactttttaa gccagcattc ggatattttc attgttgttt 3129289  
taattatttt tattaataaaa cgtaagtaga gggctctctt gtgttgccca 3129339  
ggctggtctc aaaactcctg ggctcactcc ttggcctccc aaaatgctgg 3129389  
gattacaggt gtgagccacg gtgccaatg tgcacgtttt cattgttggg 3129439  
agaaaggctt ggctgggtgt acccagcctg taatctcttg gggaggccaa 3129489  
ggtaggagga ttgtttgagc ccaggagttt gaggctgcag tgagctatga 3129539  
tcatgccact ctagcctggg caacagagtg agaccctgtc tcaaaaaaag 3129589  
agaaaggaat attaaaagag aaaggcttac atatggctga tccaaaaata 3129639  
tagctaaatc actggaaaag gcaagaagtt gactgcagta aaaagcatgg 3129689  
cttttctgta tgctgtgcta agtacttgcc attcattaca ggactggtgc 3129739  
tactaactta atgagtacgc acattttgac ctgttacgtg aaaaaggaaa 3129789  
cagattgta ggcatgtgaa gtgctttgcc tgtgtttctg taactactaa 3129839

ctagagagct aggtttcгаа cttacgcaga ttgatttcag agcccagctt 3129889  
gcaaccgcta agctctgttt ccttcctagg tataaatgct ttccatgaga 3129939  
actgaaggaa gaaggaaata ggagttgcct ccattgtgca cgttgcaaaa 3129989  
cctgtctgga aggagcatag gaaatggctt tagctaagtg ccagtagctt 3130039  
cttgctgttg ccacagtttc attagtgttg attctcaatg ttgtctgctg 3130089  
atgttgctaa agcagccaca cagtagcatt acaaagcctg tgggaatttt 3130139  
aatagcacct tcataaatat attagtagt atatgtagaa atatgaccta 3130189  
tacagcactg gctatctatt agattcacct ggggagcttt taaagcacac 3130239  
atgctcgggt tctacctgca gcctactgaa ttagaatctc tgggtgggat 3130289  
gaccatctat atttttaata aaagctccac aagttaattc tgatgcacag 3130339  
aagatagacg aaccattact ttaacatgac tcaccttgta ttagcttatt 3130389  
ctcaaagcta ctttcccatt cttgaaattg gatgatggct ttttaggtac 3130439  
gtgccagaga taaatggccc agaatatgtt gattctttta gattgtttta 3130489  
ggcagacttt aagtagaggg cttaaagca tgtttggtt tgccgatgct 3130539  
tcactatctt ttttaattgg agagagtгаа aattgctaaa aattgctgtc 3130589  
caatagaaat ttatgagccc atatgtaata taaacttttt tactaaccac 3130639  
attaaaaaga tagaaatggt gaaataaatt ttaataatta tttttggttc 3130689  
atctaattta atccaatata tctaagatac tatcagtatg aattttgtat 3130739  
aaaaattggt aatgaggccg ggcacagtgt ctcccacctg taatcctagc 3130789  
actttgggag gctggacatg gtggctcata cctgtaatcc cagcactttt 3130839  
gagtggctga ggtgggtgga tcacttgagc ccaggagttt gagaccagcc 3130889  
tgggcaacac ggtgaaacc catctctact aaaaatatga aaaataggca 3130939  
agcactactga tatgtgtctg tagtccctgc tacttgggag gctgaggtgg 3130989  
gaggatcact gaagcctggg aggggggctt gcggtagcc gagattgtgc 3131039  
cactacactc cagcctgggc gacacagacc gtgtctttaa aaaaaaaaaa 3131089  
aaattaatga gatattttat attcttactt ggaagtcttt gaagtctggc 3131139  
atgcatttaa tacagcacat ctgaattcag acttaccaca ttttaagtgc 3131189  
tcagtaagta caagtggctg ctgtttgaa agtgcagatt ttgaagctgt 3131239

gattttgggt tgagttgaag ctttttctt tctgtgtatg cccttcacag 3131289  
cccccaattt ttcaacttca attgcaagag gcctcttgga agaaggagta 3131339  
gtaattaact cttgatggcc taactcaggt cattctgcat tttttggaaa 3131389  
taaggttcta aatattgatt actatagttt cttgaacatc attttaacaa 3131439  
ttgtgtttaa cgttctaaac ctgaaactgg ctagccatat gtagaaagct 3131489  
gaaactggat cccttcctta caccttatac aaaaatcaat tcaagatgga 3131539  
ttaagattt aaacgttaga cctaaaacca taaaaaccct agaagaaaac 3131589  
ctaggcatta ccattcagga cataggcgtg ggcgaggact tcatgtccaa 3131639  
aacaccaaaa gcaatggcaa caaaagccag aattgacaaa tgggatctaa 3131689  
ttaaactaaa gagcttctgc acagcaaaag aaactacat cagagtgaac 3131739  
aggcaaccca caacatggga gaaaattttc gcaacctact catctgacaa 3131789  
agggctaata tccagaatct acaatgaact caaacaatt tacaagaaaa 3131839  
aaacaaacaa ccccatcaaa aagtgggcca aggacatgaa cagacacttc 3131889  
tcaaaagaag acatttatgc agccaaaaaa cacatgaaaa aatgctcatc 3131939  
atcactggcc atcagagaaa tgcaaatcaa aaccactatg agatatcatc 3131989  
tcacaccagt tagaatggca atcattaata agtcaggaaa caacaggtgc 3132039  
tgagaggat gtggagaaat aggaacactt ttacactgtt ggtgggactg 3132089  
taaactagtt caaccattgt ggaagtcagt gtggcgattc ctcagggatc 3132139  
tagaactaga aataccattt gaccagcca tcccattact gggatatatac 3132189  
ccaaaggact ataaatcatg ctgctataaa gagacatgca cacgtatgtt 3132239  
tattgcggca ctattcacia tagcaaagac ttggaaccaa cccaaatgtc 3132289  
caacaatgat agactggatt aagaaaatgt ggcacatata caccatggaa 3132339  
tactatgcag ccataaaaaa tgatgagttc atgtcctttg tagggacatg 3132389  
gatgaaactg gaaacctca ttctcagtaa actatcgcaa gaacaaaaaa 3132439  
ccaaacaccg catattctca ctcataggtg ggaattgaac aatgagatca 3132489  
catggacaca ggaaggggaa tatcacactc tggggactgt ggtggggtcg 3132539  
ggggaggggg gagggatagc attgggagat atacctaag ctagatgaca 3132589  
cgttagtggg tgcagcgcac cagcatggca catgtataca tatgtaacta 3132639

acctgcacaa tgtgcacatg taccctaaaa cttagagtat aataaaaaaa 3132689  
aaaaaattaa aaaaataaaa aaaaacatat acctattgaa ggaaaaaaaa 3132739  
aaaaacacaa aaaaaaaaca ctggattttc tccaccctga gaaatgaggt 3132789  
cctaaggaag ttagagccta aatgggtgtg taaggtagag gtgggtgattg 3132839  
cttccagagt cctgtccttg aaggactggc aaatgagaac atggatatat 3132889  
tctaaagtgt actttttcta ggctactgga gaagtggcaa gaatggaatc 3132939  
ttttagtga atgatcaaca agttagaatg tcaaagactt ggggtgccctg 3132989  
gtaaaatgta atgttctgta taaaatcaaa atgtacaaaa acacacagcc 3133039  
tttctgatgg ctgctatata gtgatacttg gagtttaaat cctgtaccaa 3133089  
ttttcaaadc ttaatagctg ctttgccatg tgtaaaatta gttttcagta 3133139  
tgcaagaata tgagagacta gaatagtgtt ttattgtcat atcataaggg 3133189  
ttttataatt tgtcagggtt ttttatgtat ctttttgctt cagtacaatc 3133239  
atatgctagt ggcatagaag attatttccc agctagctgt ggtagctcat 3133289  
gcctataatc tcccagcact ttgggaggcc gagatgggag aattgcttga 3133339  
gcccaggagt tagagaccag cctgagcaac atagtgaaat cccatctgta 3133389  
caaaaataat aataataaat ttagccagtt acagtgatgc acacctgtag 3133439  
tcccagctac tcaggaggct gaggcagggg gttccttgaa cttgggggtca 3133489  
gggctgcaga gtgagctgtg gtgggtgccac tgactccag cctggatgac 3133539  
agtgagacc tctctcaaaa aaaaaaaaaat gagagactat ttttctgtcc 3133589  
tagagatgag gctgaagttc ccaatgcaga cgatttttgc ctgagctaac 3133639  
agcattaatg gatgagcaag gacttgttta gtcctttggc tgttgtccac 3133689  
aggggggtgat agcgctcagt gttatgtgac gtcagaaggc catcatgtta 3133739  
aaatatagca cgatagggac aactgatcac tctcttgaag tccggagctc 3133789  
ttagaacaga tgggtctgtt ttctgtagta atgctcacac catgtcttcc 3133839  
cactcatagc tcccactcac tgccccttac cccaccccag cctccagtcg 3133889  
tcaaaattta aagctgtaaa gggaagacgt tcatgaaaat ttaattaaaa 3133939  
gttaacatta aaaagaggtg acagttataa aagttttctg acacattaat 3133989  
gtatggctct ttgaattgct aataataatt aacaattgct tactatcaga 3134039

ggtagcattt ggagcaaata aacgtagttt ggggatgatg agattctgca 3134089  
ttctttgact tttaggctta agtttacagt taaatttagt tacattaggt 3134139  
gttattttca ctgaattatt tcattgaatg tagctcgcga agtcttttga 3134189  
aatgttgact gcctccctgt ttctgtaaga ttgaagatat cagtaacagg 3134239  
aataaataaa tcttgaagct tgatagctcc tgctgtttta ggccaatgtg 3134289  
aaattatgct tttcttataa tttttatgac tgctctttca tatagacaaa 3134339  
tatgccttga tacgtctttc tcagttgtct taaatgttat tttaaaaatc 3134389  
ctgaatggca aggtttttgg aatggtttaa taacataggc taatcaaaaat 3134439  
ggtagaatata ttactttgag ttctggatct ctttgtaatg cagttagctt 3134489  
actgagtaaa tttgaactta tcgttttatt ttagtaaagc cagcatgaga 3134539  
atcttaaaac agtagttatc tgtataaatt aagccttgac cttcttcatc 3134589  
ccactgttta tagtaagttc aagtgaacgt aaaacttgtc ctttatttgc 3134639  
ttgaatttca gaacagctac ttgataccgt ttttaagaaaa cttaaaaaaa 3134689  
cccaatactt accagtgaag tcattctttt ttttaatagt tagaatatca 3134739  
taattcagtt taattatgag ccagattggt ataaagatga ataagatagg 3134789  
ttttctaccc tgagaagtgg ggagacaaag acataaaaaca ggtaatttta 3134839  
atataattgg tatgtataaa gatatgctgt actagtcgct tagaagaaat 3134889  
tcacctaacc ttaccttcag gtgaggcttc ctaaagtgag tcacaacaga 3134939  
taagtaagag tgagctagat cattgttttc caactgggta gttacctctt 3134989  
agtgggcat gaagtcaatt tagtggcat gaccagtaat taaaaaaaag 3135039  
agagaataga atagattgca tggtagcgaag ggtaggtttt cttttatgat 3135089  
acttttgttt gccatgtaga catacaaatt ttggtgactg ctatgtgaat 3135139  
gtcttagtgt gggttatggg ctaagaagtg tgacagccag ccactgagct 3135189  
ggagtaagtt ggggaggtgt ttcagtgaag tgactcacac aagcaaaatt 3135239  
atggaggaaa actgtgggga gagttttgtg cagacagctg gtacagacag 3135289  
tgtgatgcag agtttagcaa gagatgagac aaataggtca tgggaagcctt 3135339  
tggatatagc actgaggaat ttgggtactg tgttgtgagt agttaggagg 3135389  
agcagttaat gcgtagcgta attaacctag tgttttaaatt ccctatgtct 3135439

agatggtgga ggctggattt aaggaggtg atgtggtccc agaagtgggc 3135489  
tttcatggga aatgtggcat taggggaata tgaacacttc cccttgggga 3135539  
gagcttgtgg aaaagatata cttaattaag tcaagaggggt agggagcatt 3135589  
tgttactttt aagtacatca ttttaaggag tctacagaga atggggctga 3135639  
aaagatgtgg gaagagtagg tggaagagga gtgtgggcag gacagaaaac 3135689  
agatgttgag gtagggatag aggattctgt tttgagttgt gattagaggt 3135739  
gctggaactt tgatgtatga tgagtttagt tgaatgctcg tgttgctgtc 3135789  
tgctagccaa agaccaacag ggacacaagt tgggttgta ctctggcag 3135839  
tgaggagcaa catgctgagt gaggagtagc atgctgacac tggagaacct 3135889  
ggaggtatac tcagtaagag ggctttagaa atgacttctt ataggagttg 3135939  
ggcttgtatt gggtcatttt ggagagcatt taaggtagta gagctttgca 3135989  
gcgggttaga tgctctcagg aagcagaagt aattctgtga ttgggtgtct 3136039  
taataatggt ttcctagaag ttgagtacag ttgtgagact aaacctaatt 3136089  
ggtaaggcac agtcaactgtt accaactatt gtagggtgta tcatggacag 3136139  
tgttcatggt tcgtgtatgt ttaggtgatt acagagttgt cttgatcgat 3136189  
ccatcgtggc cacagaatgg gcttgtctga tattgatggt ttgtgaaaat 3136239  
gtttctgtac cacagacccc agggcctaat attgtggcag gctagctcct 3136289  
ggatgccatt ctcaactagg tccatgtgga catatggata tagttatagt 3136339  
ggatcttggc ttatcctcta catatagagg agtcagctat gtagttgctt 3136389  
atagttgttc agtgttcaaa tggttctacc tagagcacag ataggagttg 3136439  
atcttagaat tatatacaga ccatttcttg aagattttta gctataaaca 3136489  
ttaatcataa gtggtataga ctaatgtctg atagtttcat gcgtgaacat 3136539  
cctgcctcaa catctatctg taaacacaga gaaatacaag aacatgttac 3136589  
catttctaaa gtatgcacat aaatggggaa aagaaagcag aattgtttga 3136639  
tttactttct ttttttttct tttttttttt tttgagataa ggtcttgctc 3136689  
tgtcacccag gctggagtgc agtggcacga tcatagctca ccgcagcctt 3136739  
gaactcctgg gctcaagcca tcctcccacc tcagcctccc aagtagctgg 3136789  
gactacaggt gtgcgccact gaacctggct atttttatct tttgtataga 3136839

tagagtcttg ctctttgccc aggctggtct tgaactcctg ggctcaagtg 3136889  
atctttttcac ctcagcctcc caaagtatca ggattacaga tgtgagccac 3136939  
tgcgcctgac ctgcttttagt ctttagtaat acttcaaatt tatattgatc 3136989  
actttgaggc attgtggaat tctgaattat cttctgaata agcaaagaat 3137039  
tctgcaagtt ctctgtttcc tgttggtcct cagaggcact ctctctgtaga 3137089  
caagtctttt tacttctttg ggccttgttc tcatttttca tatgaaaagc 3137139  
ctcagttaa tgaatctctg ctgttccaac tagatggaaa agccttgtac 3137189  
ttttgtgggtt aaaataaaca cattgaaata aagaacttgg gaataaaaaat 3137239  
cttattttct ctcactctcag **AATTATTTGT CAAAGAGAAT CACGAATTAA** 3137289  
**GAATAGCAGG AGGAGCAGTG AGGGATTTAT TAAATGGAGT AAAGCCTCAG** 3137339  
**GATATAGATT TTGCCA\_CCAC TGCTACC\_CCT ACTCAAATGA AGGAGATGTT** 3137389 [T82S](#) [P86S](#)  
**TCAGTCGGCT GGGATT\_CGGA TGA\_TAAACAA CAGAGGAGAA AAGCACGGAA** 3137439 [R99W](#) [p.I101T](#) [p.\(Thr110Ile\)](#)  
**C AATTACTGC CAGG**gtga~~gt~~ caaaagtttg acaggtaatt acattgcttt 3137489 [c.342+5G>T](#)  
tttggttaatt tttaaaaact taattttctc tagttaaaag caaataacga 3137539  
aaagtctaataaaaaagtca gtctcttcta tgcccgtcat aaaccctgca 3137589  
gtcctctggtt cttgcagcca tgtttacttt ttatgttacc tctccatttc 3137639  
taaaaagacc tttgtatgct acgggtattt acttttcagt ttttactatc 3137689  
ccagttttaa gatgtgttac gtattgactt tccataaggg aagatgattt 3137739  
agctttctta ccacaccctt ctcaacaaca agcacgtata attctccttc 3137789  
ttctgtcttc ctagtatatt tatatcataa tttttggta agtcaatatt 3137839  
cagggttcac gtttatgact ctgtattgtt tacagccaga ttgtggagta 3137889  
tattgtgatg acatttcttc tattggcatg tttttaaatt ttcctgcagt 3137939  
taatggcatt tttcttttac ataagcttcc catatactac caatttattc 3137989  
ctgcactctg tgccagagct atagagttcc tctcaaaaga tttaaacaca 3138039  
ttatatcaag tttcaattgg gtttttggga aacatcttac ctgggtgctgt 3138089  
cttcctgctc caataggac ttttaggaat ttccttggcc tctctttttt 3138139  
gttaagcctc ctgtttcctg ggtcccatgt gctgttctct cttggcttaa 3138189  
gccctcattt taataatcca aaacctgagg aagccttaca cgtctgaaaa 3138239

tgtttttatt tcacctccat ggtggtttga tagttacggt tatagaattc 3138289  
taggcagga ataattttta ctcaaaaatt taaaggtatt gttttctagc 3138339  
ttccagtact gccagtaagt ctagttccat ttagatttct cttttgttta 3138389  
aaaacctgat tgccattatt tccttttggga agtctttctg atcttttcat 3138439  
gtctaagtgt ttttaattca agatgatata acttgttttg gatttttcac 3138489  
ttactgtgca gggcacttag tgggccctca tgtttctttc ataatttcat 3138539  
cccttttgtt aaatgctttt tcctttggaa actcttatta tttggatcct 3138589  
ggattgctgg gactgacctt ctagttttat cttttgtctt tattttatat 3138639  
tctcctgtct tactttctat gagagtgcct taacttcac tcccagtcac 3138689  
tgtataatac tgacaacttc tgtggtcttg tagaatttca agaggtcttt 3138739  
cttagtatat ttctttggaa agcttcccgt tcatgtttca gatggaagat 3138789  
cttttatttc tcttaggata tctactatag ttattttgac agtgcctttg 3138839  
tttctccga gtgttttctt tcaggttggc tttccttgaa tttgggtgat 3138889  
gctctgtatc tgagggcttt attgtagttt tgcatgggaa gtgtcagcca 3138939  
actgggactc ccagtctaag tctcagtagg agttttcatt aggagaaatc 3138989  
agagaagaat actccagtat tatgccaggg aatgaacctg attgttagca 3139039  
tcttgaaacc aagtagggaa agggatgagg gtcatgttaa ttttcaactg 3139089  
aatcttgttt tcattatgat gcttcattcc catgagcatc tgtgcctggt 3139139  
gcaacaagtt ctgattattt ttggttgaac ctttctagag aatcagttcc 3139189  
tggttttctg cctcattaag ggagtcattc taggtgggtc tgattatttc 3139239  
ttaaaatgag ttgcaaacag ttttcctatt tcaaacctta ccttattctt 3139289  
tgccttcaga gatacttggt cctcaaattc ttgagttctg gaattctata 3139339  
gtgagagata gatgtagctt gtatttagag aagagtatgt atcaaattga 3139389  
gagaaatcct acaacagact tctggtgatc gttaacggct ttcacttcc 3139439  
aaataaagac attcctaact cttggcacat aaaacacttt attctctact 3139489  
cctaaatgct aatagctac ctgtcagata tactttctct tttacatata 3139539  
ttcctcttcc tccaccgtgc ctttggatc ctcttctctt catttgaagt 3139589  
ttttctacca cacctgcatg taaaaacct gctgcttttt caaggcttgg 3139639

cacagacgcc accctaacat gaagttactc agcttcccca gctggaggta 3139689  
gtctgtcttc ccaagataga ggtaactctt tattttaatt tctttctttc 3139739  
tcttttgaga cagggctctca ctctgttgcc taggctggag tgcacagtgt 3139789  
gatctcgact cactgcagcc tctgcctccc ggggtctagc gatcctccca 3139839  
cctcagcctc ccaggtagct aggaccacag gcatgcacca ccacacctgg 3139889  
ctggtttttt tgtatgtttg gtagagatgg ggttttacca tcttgcccag 3139939  
gctggtcttg aactcctgag ctcaagtcac ctgcctgcct tgacctccca 3139989  
aagtgctggg attacaggca tgagccacca cccccagcct ttattttaat 3140039  
ttcactgggg attatcagta agggagttgc aagatctgtt aactgtactt 3140089  
attctttatc agtctttcgc tcaatggcaa atgttcata aattgacatt 3140139  
cacctctttg caaactggag ctattaaaaa tatttctgat aatagcttga 3140189  
tttgaaattg aagaacagtt ttgagtttga tgtggagttt ctccacatca 3140239  
cttggcagag gtgacatgtt tgtgtgttaa actcatcttt tttaatcatg 3140289  
atggattttt tttaaaaaaaa tcagtctttt gatctgtttt tgaataatgt 3140339  
ggatatcttt ctgtttcaat gtttaggtat ggtagttgac gttaaaaaaga 3140389  
ctataactgt cagggcttat agtaccatcc ctttataaag acaaaaaactt 3140439  
atTTTTTca attcagtagt atgaaaacct aatttaaatg acaacaaaaa 3140489  
ccccatgtat ttaattgcag **CTTCATGAAG** **AAAATTTTGA** **GATTACTACA** 3140539 [p.E121K](#) [E121D](#)  
**CTACGGATTG** **ATGTCACCAC** **TGATGGAAGA** **CATGCTGAGG** **TAGAATTTAC** 3140589 [D128G](#) [p.A136G](#)  
**AAC TGACTGG** **CAGAAAGATG** **CGGAA CGCAG** **AGATCTCACT** **ATAAATCTA** 3140639 [A148V](#) [R150C](#) [T154L](#) [I155T](#) [M158V](#)  
**TGTTTTTAG**g taatatttgc agataaaaacc atattgtgag tctatcagaa 3140689  
tgccttcttt tcaagtaaaa cctacattct ggaaatgttc ttcaacttga 3140739  
gaagttgcat taatttcttc taagagatgg ttttagcagat tgcttcaaag 3140789  
aatagtcctt cagccgggca cgggtgggtca cgcctgtaat cccagcactt 3140839  
tgggaggcca aggcaggcgg atcatggggt caggagatcg agaccatcct 3140889  
ggctaacacg gtgaaacccc atcttacta aaaatataaa aaattagccg 3140939  
ggcgtggtgg cggctgcctg tagtcccagc tgtaggcag gagaatggtg 3140989  
tgaaccggg aggcgagct tgcaagtgc tgagattgtg ccactgcact 3141039

ccagtctggg caacagagcg agactccatc tcaaaaaaaaa agaatagact 3141089  
ctggagccaa aatccctggg ttcaaattct gactccgtca ctactagcc 3141139  
acaaaacaaa aacgttaatt aatattggct tcctttgtac cgctgttggtg 3141189  
aggtttaaga gagttaattg taaatgctta gaacagtgcc tgacacatgt 3141239  
acacactcag tcagtgctaa cttcttaact gcatataaac atgatttcag 3141289  
ggaagagaag tgcacacaca catggtacat gtacatactc cacacacatc 3141339  
tacacacaca cacaccagg atcattcttt ttcctttgca ctatctttca 3141389  
tgcatgttta ttcaatcttt cttctgcttc cctggcaaac aatggtgaat 3141439  
gacttcagca ctttttactg ctgagcctac acacaacctc agattctttt 3141489  
ttagcattgt attctaggaa tcatcaataa tcagagttgg tatgtaagat 3141539  
gaaacctatt tatttcagct taactttttt gtttaatgaa agcactggga 3141589  
attatatggg ggctagatac gaattaggtt agtgttttga tacattactg 3141639  
atgcatcata tgttgtactt taaagttaag acaagccctt tatgtttaag 3141689  
atthttggatt aaaaaaggat gaaacatcca ctgttcataa cctagtttgt 3141739  
agcaatagta gtggtaaaaag gatgaagtaa taggatttgc ttcatgcata 3141789  
gatgggcaag aagtttataa gctaagggtg catctcttgc tgattacagt 3141839  
aatgacagat acaatttcta gggtacctac tgggttctag gtacaacatt 3141889  
gggtacctga tatactttat ttcattaaac tctcagaaaa acttcataaa 3141939  
gtatgttaag cccacttgat agaagaggaa acttgagact gagagatatt 3141989  
aagtaactta gtttaagtca cagagaacca tgattttggc ttgtttccaa 3142039  
ggcctaggca atatatgacc atagagagcc caattggtgc atthttctct 3142089  
cagttaatgt agtcagagct ccaggtattt atthattctc atatttactc 3142139  
atagaggaag ctgctccaaa tagtgcaata tagagtcttg tctaactggc 3142189  
ttctcataag cactactgaaa gagagaaact aatactcttt ttcagtgtcc 3142239  
tagtttataa aataaaaagt gttcctattg gtactatcat tttctgacat 3142289  
ttactgaacc cttataacat gtcaggcact gttctgagca cattatgtaa 3142339  
atthaatctc ctgacaacc tgcaagcag atactgctat ttaaccgatg 3142389  
gtaacttgcc caaagttgca cagcttgtaa agtgtaggat cagaattcca 3142439

actcaggcag cctgactcca gaggtcacat tcttaaccac tacattattc 3142489  
cctgcaactc aaccatattt catatthttta tttactgtat tttaaaagga 3142539  
tgatattcag agcaaaacaa aatacacacc agtatgatgc ttactaagct 3142589  
ttgtgtagtt ttctatcctg gctthtttcca agccttattg gatcaagcat 3142639  
tcatagttct ggcatthtatg gttggttact ttgcttccca aacgcttatt 3142689  
tttgctttga tcatattcct atgattthttt cctccaaatt ttgatcttgc 3142739  
ctthtaggttc cccagggacg gttacaagtc tcttcattag gagaaataac 3142789  
accaagatgg atataccata ttatthtgcta cthttgtgatc atatthtttgc 3142839  
ctatthtcat atthttcttht tatcathttt tthttatgtct tthttgaatct 3142889  
ggagccttcg aaatthtgcca tgtatgtcaa gatggttccc tthttaaaagt 3142939  
tactatgcat ataaaactat taacagcttg gaaagagtta agcattaagt 3142989  
gtgaacttac caatgtactg ttgctthttgg gataatcaga gaacattcaa 3143039  
gttcaaacac agccaagagg taththttgat aagtagttgt cagtgcctct 3143089  
thttctgtaat gctacagagt gaagtatctc atagatcact gacctccca 3143139  
thttggtgagc tgaatgggtg ctgtgtthtcg gctctaaatt cctthtttcta 3143189  
thttthttaag tctccatggg aaccaactgt cttagthttgc ctgagcttga 3143239  
aatacttctt tggatgtatg atthttcaact ttaaaaactag gaatgtctca 3143289  
ggcaaaccag tatgaagtgg tcaacttact aattaatact tgaggthttta 3143339  
tgtacatata tataaaaatta gthtttatgtc actthtttca tccaacatat 3143389  
gagaacattt gthttattacc atthtttgta atggctaata gattaacatg 3143439  
gttcaaaaatt cacaaagtht taaaggctct acagtgaagt ctctgatct 3143489  
gtaatgaaca ggactgcca thtaaccaca cccttgctaa cactgttatc 3143539  
aagtgtthtc atcgthtgcg atctgaaaga cgctatcttg gaaatgggta 3143589  
thttactggcc gggcatgggtg gcttatgcct gtaaccctag cactthtggga 3143639  
ggctgaggca tgcagatcac ttgatgtcag gagthtcgaga ccagcctggc 3143689  
ccacttgccg aaaccctgtc tctactaaaa atacaaaaat tagctgtgtg 3143739  
tagtggcagg tctacttggg aggctgaagc aggagaaatca cctgaacctg 3143789  
gtgaggctgca gtgagctgag attgaccac tgactccaa ccagggtgac 3143839

aaagtgagaa tccgcctcaa agaacaaaaa aaggatttat gactaagggt 3143889  
gaaaatcttc attattaaag agatttctat atttccttta taggtagcct 3143939  
atTTTTctat ttacgtggcc tttttattag aacttttata tattatggaa 3143989  
attagccatt tttaaaatat ggacttacat atatttttcc aaaaatgtca 3144039  
cttatgactt tgtgtgtgat agtagtttct gccatacagg catatttcat 3144089  
tttttatgtc attcaattat ttcttcgaaa atcctgttgt ttttgtgttg 3144139  
cgttttctgt tttcttgctg agtttgaaag atcttcaaga ttataaagat 3144189  
tccaagatta aaaatatttt cctcgtttct tctgttaatc ctgttacgta 3144239  
ttttttccat tttattttgg ctattatttt cccatattgt gaaaattagc 3144289  
ttgtatggtg tcttgttggc tccactccac ctcatacaag ttttgcatat 3144339  
ttcttgttta gtttattctt ggattatctt tttagttgca attgtaaagt 3144389  
cagctaaaca gactaaaaga cagtctttta ttgtcttcca tttgatagtt 3144439  
gatatgtatg aatacgtatg tgttttaata actgttctact ctgctgaatt 3144489  
tttactgttt gtgatagtgt ttagctgatt ttcttgtgtt ttcaaattct 3144539  
tatttgccaa tagtgatttt tctccctcct tttctaata atagGTTTTG 3144589 [p.\(D163V\)](#)  
[ATGGCACTTT](#) [ATTTGACTAC](#) [TTTAATGGTT](#) [ATGAAGATT](#) [AAAAATAAG](#) 3144639 [L166S](#) [F167Tfs\\*9](#) [Y173F](#) [p.Leu176X](#)  
[AAAGTTAGAT](#) [TTGTTGGACA](#) [TGCTAAACAG](#) [AGAATACAAG](#) [AGGATTATCT](#) 3144689 [R190I](#) [Q192\\*](#)  
[TAGAATTTTA](#) [AGATACTTCA](#) [Ggtaagaatt](#) tttaaaaata aaaaatgata 3144739 [R203K](#) [c.608+1G>T](#)  
gttttaatat catgactaga gcataacagt ggtcatacga aaccacagc 3144789  
aggtcagtgt acaaaatggt gacatcccaa atgtctgtct ccagtggaga 3144839  
cctagcacc tatgacttat gagtgaaaat tacttagcta cttcatattg 3144889  
tattttcatt cccagaacgc acatatactt tatgtcatct ttcctacaat 3144939  
tttaagtcat ctttttaaat gtccattttt ctttttgatt gatatttctt 3144989  
ccattgattt attaattaca cagatgtttg aatgcttacc acaggtcaat 3145039  
ccctgtgtta ggtgcattaa acgtggtaat gaacgagtga aagtgttcgc 3145089  
cttcatacag cttacggttt taggtagtca tggaaatcgg tgatggttca 3145139  
caacaaaatg attttgggtga aaagaaatac ctgttatatg atttaaagaa 3145189  
tcaaagcata aagacataat cgaaacttgg atgggccggg tgtggtggct 3145239

cacacctgta atccccgcac tttgggaggc cgaggcgggt ggatcacgag 3145289  
gtcaggagat gagaccatgc tggctaacat ggtgaaaccc catttctact 3145339  
aaaaatacaa aaaattagcc aggcattggcg gtgtgcgctt gtagtccgag 3145389  
ctactcggga ggctgaggca ggaggatggc gggaaacccgg gaggcggagc 3145439  
ttgcagtgag ccgagatcgt gccaccgcac tccagcctgg gcgacagagc 3145489  
gagactccat ctcaaaaaaa aaaaaaaaaa aaaagaagat cttggataaa 3145539  
cttggtaa atgaaacgca tgactagttt tgtgggtagc aatgatgttt 3145589  
aaatgtcaca cactaacctt tttaaaaaac tatccgaatt ggctagttta 3145639  
tgtcaagtaa tattcatttt tcactgggtg ggattgctct cagaatattc 3145689  
tataacagaa catggatatt ttgtcaatgt agtttctcta aacttgagta 3145739  
ttttagtct gtcttataaa taatagaaca tagattaaga cttagctgta 3145789  
tttgtatcac taatccagat ttagcattaa tttacttatt tagcatcact 3145839  
ttggaccgct gatgaattca ttagaatttt aaggcatga gagggaaaca 3145889  
catgcacgtt agggcttcca gttctaagat tccgcgaaat atactccagg 3145939  
gtgcgcaact agatgagtcg tatttgaagg ttttccttga aagtactaat 3145989  
gtgtacagac aggcaagctt tgaggaattc agactactct gttaaggcac 3146039  
tgcagtcttg ttttggtttg ctgcctttac aagaatgctg tttttttttt 3146089  
catctagtat aagtccaat tcaggaattg catttgatga ccattcggaa 3146139  
tgtcttgagt cagtaatttg gaagtgggt ggagacctg aagttttagt 3146189  
tcttgctaac ctcaaaaagg ctacttatat tttattcgat cctgggtttt 3146239  
cttatctggg aaaagaaaga ggaggtggag aaatgaccag ttgctttcta 3146289  
aggccccttc tagacctaac taattatatg ttgttttcat taagcagatg 3146339  
tatgggatag taccaataaa aatgaaaaac agattttgct tgtgatatgc 3146389  
caatatagag gtaataccct gtgaagattt tgtctttagt **GTTTTATGGG** 3146439  
**AGAATTGTAG ACAAACCTGG TGACCATGAT CCTGAGACTT TGGAAGCAAT** 3146489 [D.H215A](#) [I223T](#)  
**TGCAGAAAAT GCAAAGGCT TGGCTGGAAT ATCAGGAGAA AGGATTTGGG** 3146539  
**TGGAACTGAA AAAAATCTT GTTGGTAACC ATGTAAATCA TTTGATTCAC** 3146589  
**CTTATCTATG ATCTTGATGT GGCTCCTTAT ATAG**gtgaga gcaagttata 3146639

aagtgtttga atttttggca gtgaaatc tggtttcaaa tttcataagg 3146689  
aaaaaatggt tgactcattt ggttgaagaa ttcttgaga aatggagtat 3146739  
tttaaaataa gacaaagttt gggttatggg gtaagttttg tcgtgagtag 3146789  
ggaagagctc aaagacagct tgtggtgctt gtagagtagt ctctagtcag 3146839  
acctaggttt gaaggaagct cagcccctta tctagtcttt gcaacttggg 3146889  
ttagtttcta acccaaaaaa gcggtttaa agtaatgtag cctctatcta 3146939  
ataggaaagc taaaaggatt cagtgagta atacatgtaa agctctttta 3146989  
gaagagtac ttgtacacag aaattgttca gtaaactgtg taattcattt 3147039  
tcacagagaa tagtgggatt atatggttta tcacacttcg gtaagcttgg 3147089  
gcatatttca aatttcagta acattactga atggggggtg gatcttgtat 3147139  
cagtgtaaag tcaggaattt gtgattagaa agagtatgcc ttgtgagtct 3147189  
gacaccactg tcaccactac ccctggaact cttgatgtag ctttaatgga 3147239  
aacaagaaca ttttagaggt tttgaagggtg acaggggaga gaataacaat 3147289  
atattagtgg ttcgccttta agttggaaca tcagactgaa cctatataat 3147339  
gtatcctagt gacaaagcat ttctggatac taaaatggtg gcaaggttta 3147389  
ggatatgagt ggttttttat ccccactaaa aacaggtgaa aaatgctttt 3147439  
gtccctacag **GTTTACCTGC TAATGCAAGT TTAGAAGAAT TTGACAAAGT** 3147489 [E77X](#)  
**CAGTAAAAAT GTTGATGGTT TTTCACCAA GCCAGTGACT CTTTTGGCCT** 3147539  
**CATTATTCAA AGTACAAGAT GATGTCACAA AATTGGATTT GAGGTGAAG** 3147589 [p.D305V](#) [p.Leu313Ser](#)  
**ATCGCAAAAG AGGAGAAAAA CCTTGGCTTA TTTATAGTTA AAAATAGGAA** 3147639 [A316V](#) [p.\(Glu318Arfs\\*11\)](#) [c.948-949delAAinsGG](#) [I326T](#)  
**AGATTTAATT AAAGCAACAG ATAGTTCAGA CCCATTGAAA CCCTATCAAG** 3147689 [D348V](#)  
**ACTTCATTAT AGATg**taagt atatactagg cttggtcaga aatatgaagt 3147739 [c.1054\\_1056+10del](#) [p.?](#)  
atcgtcacga atttagaatt aatttattaa aactaagatc taaaaatctg 3147789  
tgaattttac ttattttaaa tgaaaaaatt tatgttgagt atttaaattt 3147839  
taggataaga ttgtaagtgt atgttttcat gtgtgacgaa actaaatggt 3147889  
tgattttgac acgtag**TCTA** **GGGAACCTGA TGCAACTACT CGTGTATGTG** 3147939 [c.1057-7C>G](#)  
**AACTACTGAA GTACCAAGGA GAGCACTGTC TCCTAAAGGA AATGCAGCAG** 3147989 [p.E364D](#)  
**TGGTCCATTC CTCCATTTC TGTAAGTGGC CATGACATCA GAAAAGTGGG** 3148039 [W381\\*](#) [p.G390S](#)

CATTTCTTCA GGAAAAGAAA TTGGGGCTCT ATTACAACAG TTGCAGAGAAC 3148089 G405R p.R412\*  
AGTGGAAAAA AAGTGGTTAC CAAATGGAAA AAGATGAACT TCTGAGTTAC 3148139 K416E S418fs c.1246del  
ATAAAGAAGA CCTAAACTG ATGGCTACTA AAAAGCAGAG CATTTCTGGT 3148189  
AAGACTAAAT TTTCTCCCCT CCCTCTTAAT GAGGTTTTAG AGACTACACC 3148239  
AGAATAAAG ACAGTTTAGG GGACCTCTGT AGAACAACAA GGGTCTTATT 3148289  
TTGTGAATTA TATATTTCAA GAACTAAACA GAGATCCACC TTTCTGGATC 3148339  
TGATTTATAT CACTGAAATG TACAGTTCCT TTGGAATAGT TTCACCTGAG 3148389  
AAAACATAGT TGGCTATTAT CTATCTTAAC CTGTTCAGGC TTTTAAAAAA 3148439  
AACTGTTTTT GCATAGGGTA GTACTAAGAT CTTAAAAAGT GGTAACCTGTC 3148489  
TTGAAGAAAA AACGTTTATT GTTTGTTCGC AATTGAAATA ACAGGGTTAC 3148539  
CTTAACAATG ACTGTCTATG ATGTGTCAGT TCTTATCTGA ATTCCAAAAT 3148589  
AAACCTGTGC TTAAAAAAGA AATAATTGAC CAAGTAAGTT TGCATAAAAT 3148639  
GTGAATACTA AATGTGTCCC CAGTTGCTGG CATTATATG TACAGGATTT 3148689  
GTTCTAGCAA GCTATGCCTC AGTATGTGGT TGATATTTTT CTGTCACAAT 3148739  
GATTTCTTTA TGCATGCAGA GCCTGGGGAA GTCATGGGAT TAACTTGAGG 3148789  
GTCACTATTG AGCCTATTAA TTAATTATTG TTTTAATAAA ACAAACATTG 3148839  
GTATTGGAAG ATAAATATGT TTATGTGGTA TCTGACAATG TGTATTAGGT 3148889  
GTCATATACA ATGGTAATAT GCCTGTCTTT AAAGTGTAT TTTATTAATT 3148939  
AAAAGGATAT GGCTATTATT ATATATTCTC TAAAGATTTG AGTCCTAAAT 3148989  
GCTTTCATCA GGTAAATAAA ATGTATAATA CAAActgttt atttcagctg 3149039  
ctataatttc agctgctata ctgacatttc ataatttatt tcctttctgt 3149089  
gtagccagtc ataacatctt tgtactctat gagcaaatag taattttgga 3149139  
ccttgataaa acaattttgt agagtgtaat atttctaaga ggaaatgtca 3149189  
caggggctat gatgcaagaa agcctcagaa atgactgcat acaggtcagt 3149239  
aattagatgc attataaaat aatactttga aatacttact taaaatattt 3149289  
aagtactgcc aaaatacaga tttagaccca acgtcatata atacatacta 3149339  
tttctgtata gaaagtatgc agatttagct atcaggtctg gttttgtcat 3149389  
gtgtaaaacc attttcagta gtagtatagt atatgtgtgt ttttacagat 3149439

cagaaaattt tatttgctag taaacggtat gggacatact gaaattttaa 3149489  
cttttcagag ggacaaggta actcattgca actggtttag agttcagcct 3149539  
acagagaggt actatgctac tgacaggaac ttctctggagt aagtaagttt 3149589  
tagtgcatgt taagaactat aggaacaaac cagaccagtg aagtcacaca 3149639  
aacccaaaat tattaaagta gtaaaagtag accttagaaa aaataaggca 3149689  
ggggcatatc ctgattggaa gtattcttga attttcattt actctattta 3149739  
cataaatatg cagtgtgaca ctcaactgat ttcactccac cttcaaggca 3149789  
tgtattttgg cctcactacta ttactacatt tgagtaaaca tttaacctga 3149839  
ttagttttta agtagcaaag gactaccaat aaaacgaaag ttatcataca 3149889  
aatgtggaag gaaggacca ctaaaccctt gaatataagc aaagaggtag 3149939  
gtggcaaagc agccttttta gaactttaaa attatgagta gatattttac 3149989  
attatttgaa caaagaacat gtttagtttc acac

*TRNT1* (NC\_000003.12, GRCh38) - gDNA - 2026-05-25

