



COPA (NM\_004371.4) - cDNA - 2024-09-13

GTCGCTGACG TGGAGGCGTC CGAAGGGCAG CAGGGTGTGT CGGGGCTCGG -31  
ATTAAGACAT CGGAGTCGGA GACCTGAGAG **ATGTTAACCA** AATTCGAGAC 20  
CAAGAGCGCG CGGGTCAAAG GGCTCAGCTT TCACCCCAA AGACCTTGA 70  
TCCTGACTAG TTTACATAAT GGGGTCATCC AGTTATGGGA CTATCGGATG 120  
TGCACCTCA TTGACAAGTT TGATGAACAT GATGGTCCAG **TGCGAGGCAT** 170 [p.G56S](#)  
TGACTTCCAT AAGCAGCAGC CACTGTTCGT CTCTGGAGGA GATGACTATA 220  
AGATTAAGGT TTGGAATTAC AAGCTTCGGC GCTGTCTTTT CACATTGCTT 270  
GGGCACCTAG ATTATATTCG CACCACGTTT TTTCATCATG **AATATCCCTG** 320  
GATTCTGAGT GCCTCCGATG ATCAGACCAT CCGAGTGTGG **AACTGGCAAT** 370  
CTAGAACCTG TGTTTGTGTG TTAACAGGGC ACAACCATA TGTGATGTGT 420  
GCTCAGTTCC ACCCCACAGA AGACTTGTA GTATCAGCCA GCCTGGACCA 470  
GACTGTGCGC GTTTGGGATA TTTCTGGTCT **GAGGAAAAA AACCTGTCCC** 520  
CTGGTGCAGT GGAATCGGAT GTGAGAGGAA TAACTGGGGT TGATCTATTT 570  
GGAACTACAG ATGCAGTGGT **GAAGCATGTA** CTAGAGGGTC ACGATCGTGG 620 [p.H199R](#)  
AGTAAACTGG **GCTGCCTTCC** ACCCCACTAT GCCCCTTATT GTATCTGGGG 670 [p.A211V](#)  
CAGATGAT**CG** TCAAGTGAAG ATCTGGCG**CA** TGAATGAATC **AAAGGCATGG** 720 [p.R227C](#) [p.K230N](#) [p.R233H](#) [p.R233L](#) [p.K238E](#) [p.A239P](#) [p.W240R](#) [p.W240L](#) [p.W240S](#)  
**GAGGTTGATA** CCTGCCGGGG CCATTACAAC AATGTATCTT GTGCCGTCTT 770 [p.E241K](#) [p.E241A](#) [p.V242G](#) [p.D243N](#) [p.D243G](#)  
CCACCCTCGC CAAGAGT**TGA** TCCTCAGCAA TTCTGAGGAC AAGAGTATTC 820 [L263S](#)  
GAGTCTGGGA TATGTCTAAG **CGGACTGGGG** TTCAG**ACTTT** CCGCAGAGAC 870 [p.R281W](#) [p.Q285H](#)  
CATGATCGTT TCTGGGTCCT AGCTGCTCAC CCTAACCTTA ACCTCTTTGC 920  
AGCAGGCCAT GATGGTGGTA TGATTGTGTT TAAGCTGGAA CGGGAACGGC 970  
CAGCCTATGC TGTTATGGC AATATGCTAC ACTATGTCAA GGACC**GATTC** 1020 [p.R339Q](#)

TTACGACAGC TGGATTTCAA CAGCTCCAAA GATGTAGCTG TGATGCAGTT 1070  
GCGGAGTGGT TCCAAGTTTC CAGTATTCAA TATGTCATAC AATCCAGCAG 1120 [p.Y370S](#)  
AAAATGCAGT CCTGCCTTTGT ACAAGAGCTA GCAATCTAGA GAATAGTACC 1170  
TATGACCCTGT ACACCATCCC TAAAGATGCT GACTCCCAGA ATCCTGATGC 1220  
GCCCTGAAGGG AAACGATCCT CAGGCCTGAC AGCCGTTTGG GTCGCTCGAA 1270 [p.P408S](#)  
ATCGGTTTGC TGTCCTAGAT CGGATGCATT CGCTTCTGAT CAAGAATCTG 1320  
AAGAATGAGA TCACCAAAAA GGTACAGGTG CCCAACTGTG ATGAGATCTT 1370  
CTATGCTGGC ACAGGCAATC TCCTGCTTCG AGATGCGGAC TCTATCACAC 1420  
TCTTTGACGT ACAGCAGAAG CGGACTCTGG CATCTGTGAA GATTTCTAAA 1470  
GTGAAATACG TTATCTGGTC AGCAGACATG TCACATGTAG CACTACTAGC 1520  
CAAACACGCC ATTGTGATCT GTAACCGCAA ACTGGATGCT TTATGTAACA 1570 [p.D519Y](#)  
TTCATGAGAA CATTCTGTGC AAGAGTGGGG CCTGGGATGA GAGTGGGGTA 1620  
TTTATCTATA CCACAAGCAA CCACATCAA TATGCTGTCA CCACTGGGGA 1670  
CCACGGGATC ATTGGAATC TGGATTTACC CATCTATGTC ACACGGGTGA 1720  
AGGGCAACAA TGTATACTGC CTAGACAGGG AGTGTCTGTC CCGGGTACTC 1770  
ACCATTGATC CCACTGAGTT CAAATTC AAG CTGGCCCTGA TCAACAGAAA 1820  
ATATGATGAG GTACTGCACA TGGTGAGGAA TGCCAAACTA GTTGGCCAGT 1870  
CTATTATTGC TTATCTCCAG AAGAAGGGCT ATCCTGAAGT GGCACCTGCAT 1920  
TTTGTCAAGG ATGAGAAAAC TCGCTTTAGT CTGGCACTGG AGTGTGGAAA 1970  
CATTGAGATT GCTCTGGAAG CAGCCAAAGC ACTGGATGAC AAGAAGTACT 2020  
GGGAAAAGCT GGGAGAAGTG GCCCTGCTGC AGGGGAACCA CCAGATTGTG 2070  
GAAATGTGCT ATCAGCGTAC CAAAACTTT GACAACTTT CCTTCCTGTA 2120 [T697I](#)  
TCTTATCACT GGCAACTTAG AAAAACTTCG CAAGATGATG AAGATTGCTG 2170  
AGATCAGAAA GGACATGAGT GGCCACTATC AGAATGCCCT ATACCTGGGT 2220  
GATGTGTCAG AGCGTGTGCG GATCCTGAAG AACTGTGGAC AGAAGTCCCT 2270  
GGCCTATCTC ACAGCTGCTA CCCATGGCTT AGATGAAGAA GCTGAGAGCC 2320  
TAAAGGAGAC ATTTGACCCA GAGAAGGAGA CAATCCCAGA CATTGACCCT 2370  
AATGCCAAGC TGCTCCAGCC ACCTGCACCT ATCATGCCAT TGGATACCA 2420 [p.Asn807Thr](#)

TTGGCCTTTA TTGACTGTAT CCAAAGGATT TTTTGAAGGC ACCATTGCCA 2470  
GCAAAGGGAA GGGAGGAGCA CTGGCTGCTG ACATTGACAT TGACACTGTT 2520 P.G828E  
GGTACAGAGG GCTGGGGAGA GGATGCAGAG CTGCAGTTGG ATGAAGATGG 2570 G844D  
GTTTGTGGAG GCTACAGAAG GTTTGGGGGA TGATGCTCTT GGCAAGGGAC 2620  
AGGAAGAAGG AGGTGGCTGG GATGTAGAAG AAGATCTGGA GCTCCCTCCT 2670  
GAGCTGGATA TATCCCCTGG GGCAGCTGGT GGGGCTGAAG ATGGTTTCTT 2720  
TGTGCCCCCA ACCAAGGGAA CAAGTCCAAC TCAGATCTGG TGTAATAACT 2770  
CTCAGCTTCC AGTTGATCAC ATCCTGGCAG GCTCTTTCGA AACAGCCATG 2820  
CGGCTCCTTC ATGACCAAGT AGGGGTAATC CAGTTTGGCC CCTACAAGCA 2870  
ACTGTTCCCTA CAGACATACG CCCGAGGCCG CACAACCTAT CAGGCTCTGC 2920  
CCTGCCTACC CTCCATGTAT GGCTATCCTA ATCGCAACTG GAAGGATGCA 2970  
GGGCTGAAGA ATGGTGTACC AGCTGTGGGC CTGAAGCTTA ATGACCTCAT 3020  
CCAACGGTTG CAGCTGTGCT ACCAGCTCAC CACAGTTGGC AAATTTGAGG 3070 P.C1013S  
AGGCTGTGGA AAAATTCCTG TCCATCCTTC TCAGTGTGCC ACTTCTTGTT 3120  
GTGGACAATA AACAAGAGAT TGCAGAGGCC CAGCAGCTCA TCACCATTTG 3170  
CCGTGAGTAC ATTGTGGGTT TGTCCGTGGA GACAGAAAGG AAGAAGCTGC 3220 P.R1058C  
CCAAAGAGAC TCTAGAACAG CAGAAGCGCA TCTGTGAGAT GGCAGCCTAT 3270  
TTCACCCACT CAAACCTGCA GCCTGTGCAC ATGATCCTGG TGCTGCGTAC 3320  
AGCCCTCAAT CTGTTCTTCA AGCTCAAGAA CTTCAAGACA GCTGCCACCT 3370  
TTGCTCGGCG CCTACTAGAA CTCGGGCCCA AGCCTGAGGT GGCCCAACAG 3420  
ACCCGAAAAA TCCTGTCTGC CTGTGAGAAG AATCCCACAG ATGCCTACCA 3470 P.R1142X  
GCTCAATTAT GACATGCACA ACCCCTTTGA CATTTGTGCT GCATCATATC 3520  
GGCCCATCTA CCGTGGAAAG CCAGTAGAAA AGTGTCCACT CAGTGGGGCC 3570  
TGCTATTCCC CTGAGTTCAA AGGTCAAATC TGCAGGGTCA CCACAGTGAC 3620  
AGAGATTGGC AAAGATGTGA TTGGTTTAAAG GATCAGTCCT CTGCAGTTTC 3670  
GCTAAGGCCC CTTTTGTGTG CATGGGTCAG TCACCATATG TTCCCCCAG \*45  
AGAATGTGTC TATATCCTCC TTCTAACAGC ACCTTCCCCC TGCAGCTACT \*95  
CTTCAGATCT GGCTCTCTGT ACCCTAAAAC CTAGTATCTT TTTCTTCTCT \*145

ATGGAATC CGAAGTCTA AACTTGACTT TTTTGAGGTC TTCTCAACTT \*195  
GACTACAGTT GTGCTCATAA TTGTCCCTGC CTTTCCAGCT TAATTATTTT \*245  
AAGGAACAAA TGAAAACCTCT GGGCTGGGTG GAGTGGCTCA TACCTGTAAT \*295  
CCCAGCACTT TGGGAGGCTA CGGTGGGCAG ATCATCTGAG GCCAGGAGTT \*345  
CGAGACCTGC CTGGCCAACA TGGCAACACC CCGTCTCTAA TAAAAATATA \*395  
AAAATTAGCC TGGCATGGTA GCATGCGCCT ATAGTCCCAG CTGCTCAGGA \*445  
GGCTGAGGCA TGAGAATCGC TTGAACCTAG GAGGTGGAGG TTGCATTCAA \*495  
CTGAGATCAT ACCACTTCAT TCCAGCCTGG GTGACAGAGC AAGACTCTGT \*545  
CTCAAAAAAA AAAAAAAGGA AAACCTGTG ATGGACATTT GTTTAGTAAA \*595  
TCCCTTCAGT ATTTATCCCT CCTTCCCA CAGCAGCTTT CTTCCCTGTC \*645  
AACTAGAAAG GAGCAGGATG TAATAAATAC ATTTTGGTGT GACTAGGCCA \*695  
CACCAACTCT TAATCATCTC CCATTTCCCT TAGACATTTA AATTTCAAGG \*745  
CAGGTACCCT CTGTGTACTC AGAAATTTGA AGAAGTTATT TGGTTTTCCA \*795  
AAATGCACAC TGCGGTTAT TGATTTGTTC TTTACAATA TTGTTCTCAT \*845  
ATTTCTCACA CTAAATAAAT CTCTATGAGA GCTTCTTGAC TTGGCCATTT \*895  
ATTTCTTGG AACTCTCATG TTCTTGTTC CCCATGCAGG CACCCACCA \*945  
AAGTACATAT CTTCCCTCCA GTAATAATTT TTAATTACAA AATAAACATC \*995  
CACTATTGGA AAAAAAAAAA AAAAGCTAGC CGGGCATGGT GGTGGGTGCC \*1045  
TGTAATCCCA GCTACTCTGG AGGCTGAGGC AGAGGATTGC TTGAACCCGG \*1095  
GAGGCGGAGG TTGCAGTAAG CTGAGATCGC GCCACCGCAC TCCAGCCTGG \*1145  
GCGACAGAGT GAGACTCCAT CTCAAAAAAA AAGAAAGAAA AAAAGAAGCA \*1195  
CATGTTTTTC ATAGGGTATA TATGAGGACC TAAACTGCTG TGAAAATGAT \*1245  
AGAAAGCAAG TAGCTCCCTT ATCTGTGTTT TGATTGCAGC CTTTTATCTT \*1295  
TTGCTAATTA TAGCAATATT TATTGAGCAC CTGCCATGTG ACTGTCCTG \*1345  
TTCTAGATAT TTTACATGTA ATATACAGAT AAAAGAATAG TACTTTATAT \*1395  
ATATTACAAT GATACAATGA TTACATTAAC AATACAATAT TTTGCTTGTC \*1445  
ATATGCTAAG AATAATTGGG TAGAGTGACA TTAGTGTGCC TTCGATTAAA \*1495  
ATAAGTACTT TTTTGCCTGT TAAATTCATG TTTTCAATAA ATAATAAATG \*1545

CATATAGTTG AAAAATCA

COPA (NM\_004371.4) - cDNA - 2024-09-13

