



*COPA* (NM\_004371.4) - cDNA + Protein - 2024-12-04

GTCGCTGACG TGGAGGCGTC CGAAGGGCAG CAGGGTGTGT CGGGGCTCGG -31

ATTAAGACAT CGGAGTCGGA GACCTGAGAG ATGTTAACCA AATTCGAGAC 20

MetLeuThrL ysPheGluTh 7

CAAGAGCGCG CGGGTCAAAG GGCTCAGCTT TCACCCCAA AGACCTTGGA 70

rLysSerAla ArgValLysG lyLeuSerPh eHisProLys ArgProTrpI 24

TCCTGACTAG TTTACATAAT GGGGTCATCC AGTTATGGGA CTATCGGATG 120

leLeuThrSe rLeuHisAsn GlyValIleG lnLeuTrpAs pTyrArgMet 40

TGCACTCTCA TTGACAAGTT TGATGAACAT GATGGTCCAG TGCGAGGCAT 170 ~~p.G56S~~

CysThrLeuI leAspLysPh eAspGluHis AspGlyProV alArgGlyIl 57

TGACTTCCAT AAGCAGCAGC CACTGTTCGT CTCTGGAGGA GATGACTATA 220

eAspPheHis LysGlnGlnP roLeuPheVa lSerGlyGly AspAspTyrL 74

AGATTAAGGT TTGGAATTAC AAGCTTCGGC GCTGTCTTTT CACATTGCTT 270

ysIleLysVa lTrpAsnTyr LysLeuArgA rgCysLeuPh eThrLeuLeu 90

GGGCACTTAG ATTATATTCG CACCACGTTT TTTCATCATG AATATCCCTG 320

GlyHisLeuA spTyrIleAr gThrThrPhe PheHisHisG luTyrProTr 107

GATTCTGAGT GCCTCCGATG ATCAGACCAT CCGAGTGTGG AACTGGCAAT 370

pIleLeuSer AlaSerAspA spGlnThrIl eArgValTrp AsnTrpGlnS 124

CTAGAACCTG TGTTTGTGTG TTAACAGGGC ACAACCATTA TGTGATGTGT 420

erArgThrCy sValCysVal LeuThrGlyH isAsnHisTy rValMetCys 140

GCTCAGTTCC ACCCCACAGA AGACTTGGTA GTATCAGCCA GCCTGGACCA 470

AlaGlnPheH isProThrGl uAspLeuVal ValSerAlaS erLeuAspGl 157

GACTGTGCGC GTTTGGGATA TTTCTGGTCT GAGGAAAAAA AACCTGTCCC 520

nThrValArg ValTrpAspI leSerGlyLe uArgLysLys AsnLeuSerP 174

CTGGTGCGGT GGAATCGGAT GTGAGAGGAA TAACTGGGGT TGATCTATTT 570

roGlyAlaVa lGluSerAsp ValArgGlyI leThrGlyVa lAspLeuPhe 190

GGAACTACAG ATGCAGTGGT GAAGCATGTA CTAGAGGGTC ACGATCGTGG 620 [p.H199R](#)

GlyThrThrA spAlaValVa lLysHisVal LeuGluGlyH isAspArgGl 207

AGTAAACTGG GCTGCCTTCC ACCCCACTAT GCCCCTTATT GTATCTGGGG 670 [p.A211V](#)

yValAsnTrp AlaAlaPheH isProThrMe tProLeuIle ValSerGlyA 224

CAGATGATCG TCAAGTGAAG ATCTGGCGCA TGAATGAATC AAAGGCATGG 720 [p.R227C](#) [p.K230N](#) [p.R233H](#) [p.R233L](#) [p.K238E](#) [p.A239P](#) [p.W240R](#) [p.W240L](#) [p.W240S](#)

laAspAspAr gGlnValLys IleTrpArgM etAsnGluSe rLysAlaTrp 240

GAGGTTGATA CCTGCCGGGG CCATTACAAC AATGTATCTT GTGCCGTCTT 770 [p.E241K](#) [p.E241A](#) [E241D](#) [p.V242G](#) [p.D243N](#) [p.D243G](#)

GluValAspT hrCysArgGl yHisTyrAsn AsnValSerC ysAlaValPh 257

CCACCCTCGC CAAGAGTIGA TCCTCAGCAA TTCTGAGGAC AAGAGTATTC 820 [L263S](#)

eHisProArg GlnGluLeuI leLeuSerAs nSerGluAsp LysSerIleA 274

GAGTCTGGGA TATGTCTAAG CGGACTGGGG TTCAGACTTTT CCGCAGAGAC 870 [p.R281W](#) [p.Q285H](#)

rgValTrpAs pMetSerLys ArgThrGlyV alGlnThrPh eArgArgAsp 290

CATGATCGTT TCTGGGTCCT AGCTGCTCAC CCTAACCTTA ACCTCTTTGC 920

HisAspArgP heTrpValLe uAlaAlaHis ProAsnLeuA snLeuPheAl 307

AGCAGGCCAT GATGGTGGTA TGATTGTGTT TAAGCTGGAA CGGGAACGGC 970

aAlaGlyHis AspGlyGlyM etIleValPh eLysLeuGlu ArgGluArgP 324

CAGCCTATGC TGTTTCATGGC AATATGCTAC ACTATGTCAA GGACCGATTC 1020 [p.R339Q](#)

roAlaTyrAl aValHisGly AsnMetLeuH isTyrValLy sAspArgPhe 340

TTACGACAGC TGGATTTCAA CAGCTCCAAA GATGTAGCTG TGATGCAGTT 1070

LeuArgGlnL euAspPheAs nSerSerLys AspValAlaV alMetGlnLe 357

GCGGAGTGGT TCCAAGTTTC CAGTATTCAA TATGTCATAC AATCCAGCAG 1120 [p.Y370S](#)

uArgSerGly SerLysPheP roValPheAs nMetSerTyr AsnProAlaG 374

AAAATGCAGT CCTGCTTTTGT ACAAGAGCTA GCAATCTAGA GAATAGTACC 1170

luAsnAlaVa lLeuLeuCys ThrArgAlaS erAsnLeuGl uAsnSerThr 390

TATGACCTGT ACACCATCCC TAAAGATGCT GACTCCCAGA ATCCTGATGC 1220

TyrAspLeuT yrThrIlePr oLysAspAla AspSerGlnA snProAspAl 407

GCCTGAAGGG AAACGATCCT CAGGCCTGAC AGCCGTTTGG GTCGCTCGAA 1270 [p.P408S](#)

aProGluGly LysArgSerS erGlyLeuTh rAlaValTrp ValAlaArgA 424

ATCGGTTTGC TGTCC TAGAT CGGATGCATT CGCTTCTGAT CAAGAATCTG 1320  
snArgPheAl aValLeuAsp ArgMetHisS erLeuLeuIl eLysAsnLeu 440

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eTyrAlaGly ThrGlyAsnL euLeuLeuAr gAspAlaAsp SerIleThrL 474

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euPheAspVa lGlnGlnLys ArgThrLeuA laSerValLy sIleSerLys 490

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CAAACACGCC ATTGTGATCT GTAACCGCAA ACTG~~G~~ATGCT TTATGTAACA 1570 [p.D519Y](#)  
aLysHisAla ileValIleC ysAsnArgLy sLeuAspAla LeuCysAsnI 524

TTCATGAGAA CATTCTGTGC AAGAGTGGGG CCTGGGATGA GAGTGGGGTA 1620  
leHisGluAs nIleArgVal LysSerGlyA laTrpAspGl uSerGlyVal 540

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sTyrAspGlu ValLeuHisM etValArgAs nAlaLysLeu ValGlyGlnS 624

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nIleGluIle AlaLeuGluA laAlaLysAl aLeuAspAsp LysAsnCysT 674

GGGAAAAGCT GGGAGAAGTG GCCCTGCTGC AGGGGAACCA CCAGATTGTG 2070

rpGluLysLe uGlyGluVal AlaLeuLeuG lnGlyAsnHi sGlnIleVal 690

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GluMetCyst yrGlnArgTh rLysAsnPhe AspLysLeuS erPheLeuTy 707

TCTTATCACT GGCAACTTAG AAAAECTTCG CAAGATGATG AAGATTGCTG 2170

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TAAAGGAGAC ATTTGACCCA GAGAAGGAGA CAATCCCAGA CATTGACCCT 2370

euLysGluTh rPheAspPro GluLysGluT hrIleProAs pIleAspPro 790

AATGCCAAGC TGCTCCAGCC ACCTGCACCT ATCATGCCAT TGGATACCA 2420 [p.Asn807Thr](#)

AsnAlaLysL euLeuGlnPr oProAlaPro IleMetProL euAspThrAs 807

TTGGCCTTTA TTGACTGTAT CCAAAGGATT TTTTGAAGGC ACCATTGCCA 2470

nTrpProLeu LeuThrValS erLysGlyPh ePheGluGly ThrIleAlaS 824

GCAAAGGGAA GGGAGGAGCA CTGGCTGCTG ACATTGACAT TGACTGTGTT 2520 [p.G828E](#)

erLysGlyLy sGlyGlyAla LeuAlaAlaA spIleAspIl eAspThrVal 840

GGTACAGAGG GCTGGGGAGA GGATGCAGAG CTGCAGTTGG ATGAAGATGG 2570 [G844D](#)

GlyThrGluG lyTrpGlyGl uAspAlaGlu LeuGlnLeuA spGluAspGl 857

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yPheValGlu AlaThrGluG lyLeuGlyAs pAspAlaLeu GlyLysGlyG 874

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lnGluGluGl yGlyGlyTrp AspValGluG luAspLeuGl uLeuProPro 890

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luAlaValGl uLysPheArg SerIleLeuL euSerValPr oLeuLeuVal 1040

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heAlaArgAr gLeuLeuGlu LeuGlyProL ysProGluVa lAlaGlnGln 1140

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nLeuAsnTyr AspMethHisA snProPheAs pIleCysAla AlaSerTyrA 1174

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CysTyrSerP roGluPheLy sGlyGlnIle CysArgValT hrThrValTh 1207

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GC**TAA**GGCCC CCTTTGTGTG CATGGGTCAG TCACCATATG TTCCCCCAG \*45

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CTTCAGATCT GGCTCTCTGT ACCCTAAAAC CTAGTATCTT TTTCTCTTCT \*145

ATGGAAAATC CGAAGGTCTA AACTTGACTT TTTTGAGGTC TTCTCAACTT \*195

GACTACAGTT GTGCTCATAA TTGTCCTTGC CTTTCCAGCT TAATTATTTT \*245

AAGGAACAAA TGAAAACCTCT GGGCTGGGTG GAGTGGCTCA TACCTGTAAT \*295

CCCAGCACCT 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 AAACCTCTGT ATGGACATTT GTTTAGTAAA \*595

TCCCTTCAGT ATTTATCCCT CCTTTCCCCA CAGCAGCTTT CTTTCCGTGC \*645

AACTAGAAAG GAGCAGGATG TAATAAATAC ATTTTGGTGT GACTAGGCCA \*695

CACCAACTCT TAATCATCTC CCATTTTCCT TAGACATTTA AATTTCAAGG \*745

CAGGTACCCT CTGTGTACTC AGAAATTTGA AGAAGTTATT TGGTTTTCCA \*795

AAATGCACAC TGCGGGTTAT TGATTTGTTT TTTACAATA TTGTTCTCAT \*845

ATTTCTCACA CTAAATAAAT CTCTATGAGA GCTTCTTGAC TTGGCCATTT \*895

ATTTCTTGGA CACTCTCATG TTCTTGTTCA 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 ATTCTGTTTT TGATTGCAGC CTTTTATCTT \*1295  
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TTCTAGATAT TTTACATGTA ATATACAGAT AAAAGAATAG TACTTTATAT \*1395  
ATATTACAAT GATACAATGA TTACATTAAC AATACAATAT TTTGCTTGTC \*1445  
ATATGCTAAG AATAATTGGG TAGAGTGACA TTAGTGTGCC TTCGATTAAA \*1495  
ATAAGTACTT TTTTGC GTGT TAAATTCATG TTTTCAATAA ATAATAAATG \*1545  
CATATAGTTG AAAAATCA

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