Figure S1

A *β'-COP*

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B *γ-COP*

ATGGCTCAGCCTCTGGTGAAGAAGGACGATGATCGCGATGACGAAATGGACTACTCCCCATTTCTGGGGATTGAGAAGGGTGCTGTTCTTCAGGAAG
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GTGGCTAA

C *δ-COP*

ATGGTTGTTCTTGCGGCTTCGATAATTTCTAAATCTGGCAAAGCACTTGTCTCGAGGCAGTTTGTTGATATGTCTCGTATAAGAATTGAAGGGTATCTT
GCAGCTTTCCCCAAATTGGTTGGTACAGGAAAGCAGCATACATATATTGAGACTGACAATGTGCGATATGTTTATCAACCGATAGAGTCTTTGTACTTG
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AGACTTACCAAGTCGTGTGA

Fig. S1. Nucleotide sequences of *N. benthamiana β'-*, *γ-*, and *δ-COP* genes. The protein coding regions of the corresponding cDNAs are shown.

Figure S2

A β'-COP

MDIDKFVFRDCLHLELPDPVRSAKFIPRKQWVVAGADDMFIRVYNYNTMDKVKVFEAHTDYIRCVAVHPT
LPYVLSSSDDMLIKLWDWEKGWLCTQIFEGHSHYVMQVTFNPKDTNTFASASLDRTIKIWNLGSPDPNFT
LDAHLKGVNCVDYFTGGDKPYLITGSDDHTAKVWDYQTKSCVQTLDGHTHNVSAVCFHPGLPIIITGSED
GTVRIWHATTYRLENTLNYGLERVWAIGYMKHSRRVVIGYDEGTIMVKLGREVPVASMDNSGKVIWAKHN
EVQTVNIKSIGADYEVADGERLPLAVKEMGTCDLYPQSLKHNPNGRFVVVCGDGEYIIYTALAWRNRSFG
SALEFVWSSDGEYAVRESTSKIKIFSKNFQEKKSIRPTFSAERIYGGTLLAMCSNDFICFYDWADCRLIRRI
DVNVKNLYWADSGDLVAIASDASFYILKYNRDVVSAHFDSGRSVDEQGVEEAFELLNEINERVRTGIWVG
DCFIYNNSSWRLNYCVGGEVTTMFHLDRPMYLLGYLANQSRVFLIDKEFNVVGYTLLLGLIEYKTLVMRGD
WDRANEVLPSIPKEHHNSVARFLESRGMIEEALEVATDLDYRFELAIQLGKLDIAKEIAVVAQSESKWKQL
GDLAMSSGRLETAEECLKHANDLSGLLLLYSSLGDAEGITELASFAKEHGKNNVAFLCMFLLGKVDECIQL
LVDSNRVPEAAFMARSYLPSKVSEIVSIWRKDLSKVNQKAAEALADPEEYPNLFEHWQIAHSIEARVAEER
GVYPPAADYGNCADRPTTNLVEAFSNMRVDEEPLENGELDHEVAEQNGDEVQEPGEDDIQQEGQEEAV
VVDADSTDGAVLVNGNEADEEWGTNTEGKPSYTTSLGSAKTDGSSCSAALMDSLRDRMSVLPVV-

B γ-COP

MAQPLVKKDDDRDDEMDYSPFLGIEKGAVLQEARVFNDPQLDARRCSQVITKLLYLLNQGESFTKAEAT
GVFFAVTKLFQSKDIGLRRMVYLIIKELSPSADEVIIVTSSLMKDMNSRTDMYRANAIRVLCRITDGTLLTQI
ERYLKQAIVDKNPVVASAALVSGIHLLQTNPEIVKRWSNEVQEAVQSRAALVQFHALALLHQIRQNDRLAV
SKLVTSLTKGSVRSPLAQCLLIRYTSQVIRESGISQTGDRPFYDYLESCLRHKAEMVIFEAARAITELSGVT
NRELTPAITVLQLFLSSSKPVLRFAAVRTLNKVAMTHPMAVTNCNIDMESLISDQNRSIATLAITTLLKTGNE
SSVDRLMKQITNFMSDIADEFKIVVVEAIRSLCLKFPLKYRSLMNFLSNILREEGGFEYKKAIVDSIVILIRDIP
DAKEGGLLHLCEFIEDCEFTYLSTQILHFLGNEGPKTSDPSKYIRYIYNRVILENATVRASAVSTLAKFGALV
DSLKPRIFVLLKRCLFDSDDEVRDRATLYLNTLGGDGAVVETDEEVKEFLFGSLGVPLTNLETSLKNYEPS
EEPFDIHSVPKEVKSQPLSEKKAPGKKPTGLAAPPVAPTSTVDAYERLLSSIPEFASYGKLFKSSAPVELT
EAETEYAVNVVKHIFDNHIVFQYNCTNTIPEQLLENVTVIVDASDAEEFSEVASKPLKSLPYDTPGQTFVTF
EKPEGVPAVGKFSNMLRFIVKEVDPSTGEAEDDGVEDEYQLEDLEAVSADYVLKVGVSNFRNAWESLG
PDCEKVDEYGLGPRESLAEAVNTVIDLLGMQPCEGTEVVPSNSRSHTCLLSGVYLGGVKVLVRLSFGVD
GPKEVAMKLAVRSEDISVSDAIHEIVASG-

C δ-COP

MVVLAASIISKSGKALVSRQFVDMSRIRIEGYLAAFPKLVGTGKQHTYIETDNVRYVYQPIESLYLLLVTNK
QSNILEDLETLRLLSKLVPEYCHSLDEEGIGSTAFELIFAFDEVISLGHKENVTVTQVKQYCEMESHEERLH
KLVLQNKINETKDVMKRKASEIDKSKIEKNRGEKGGFMSLQSMGSGRIDTGFGSDSGISSGGTGGFGSG
SGFGLSPDVDTFSTKSKGRPAASATAPPKGLGMQLGKNQKTDQFLESLKAEGEVIVEDVRPSIGQAKPA
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SNENILGLKDPNRPFPTGQGGDGVSLLRWRMQTADESILPLTINCWPSVSGSETYVNIEYETPAQI
DLQNVVISVPLPALREAPNVQQIDGEWRYDPRNSVLEWSVLLIDNSNRSGALEFVVPAADPSVFFPISAR
FTASRTFSDLKVVNILPIKGGPTPKHSQRTQLATETYQVV-

Fig. S2. Amino acid sequences of *N. benthamiana* β'-, γ-, and δ-COP proteins.

Figure S3

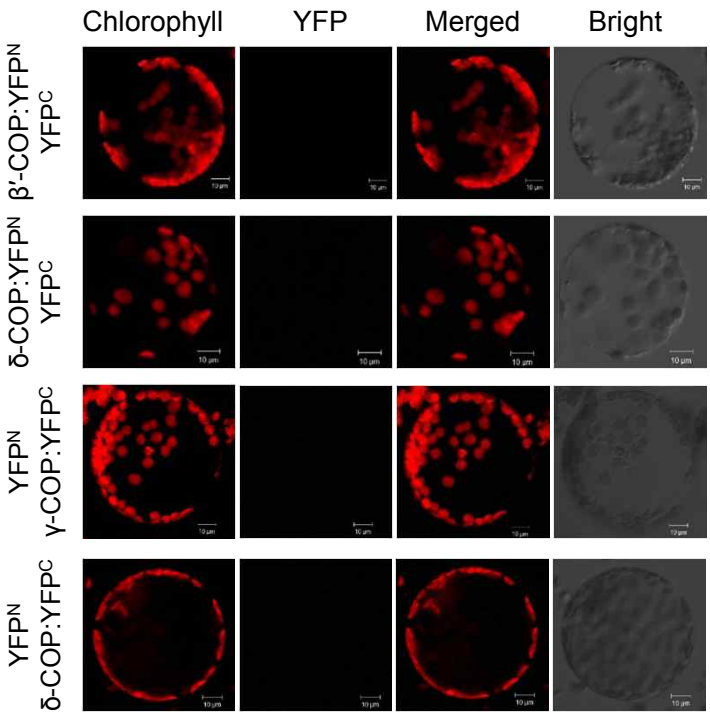

Fig. S3. BiFC controls.

β′-COP:YFP^N and YFP^C, δ-COP:YFP^C and YFP^C, YFP^N and γ-COP:YFP^C, and YFP^N and δ-COP:YFP^C were expressed together in *N. benthamiana* leaves via agroinfiltration, and the YFP signal in leaf protoplasts was observed by confocal microscopy. YFP fluorescence was not observed in any of these combinations of gene expression.

Figure S4

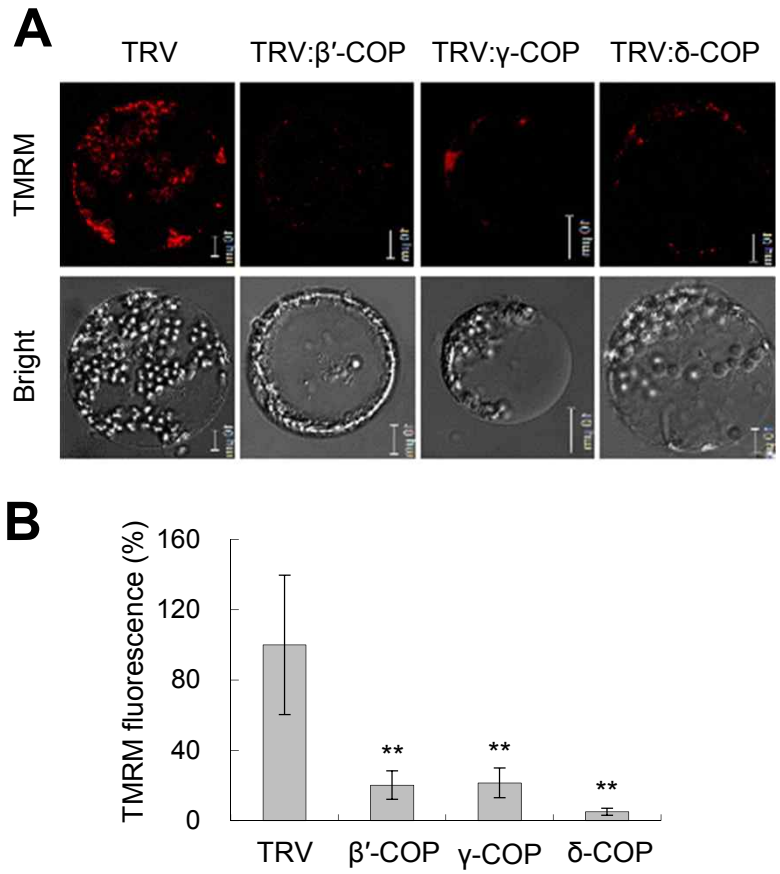

Fig. S4. Mitochondrial membrane potential in leaf protoplasts of β′-COP, γ-COP, and δ-COP VIGS plants.

(A) Tetramethylrhodamine methyl ester (TMRM) staining of TRV, TRV:β′-COP, TRV:γ-COP, and TRV:δ-COP VIGS plants at 15 DAI. Scale bars = 10 μm.

(B) TMRM fluorescence of protoplasts from the VIGS lines was quantified by pixel intensity. Data points represent means ± SD of 30 individual protoplasts. Asterisks denote statistical significance of the differences between COPI VIGS and TRV control samples: *, $P \leq 0.05$; **, $P \leq 0.01$.

Figure S5

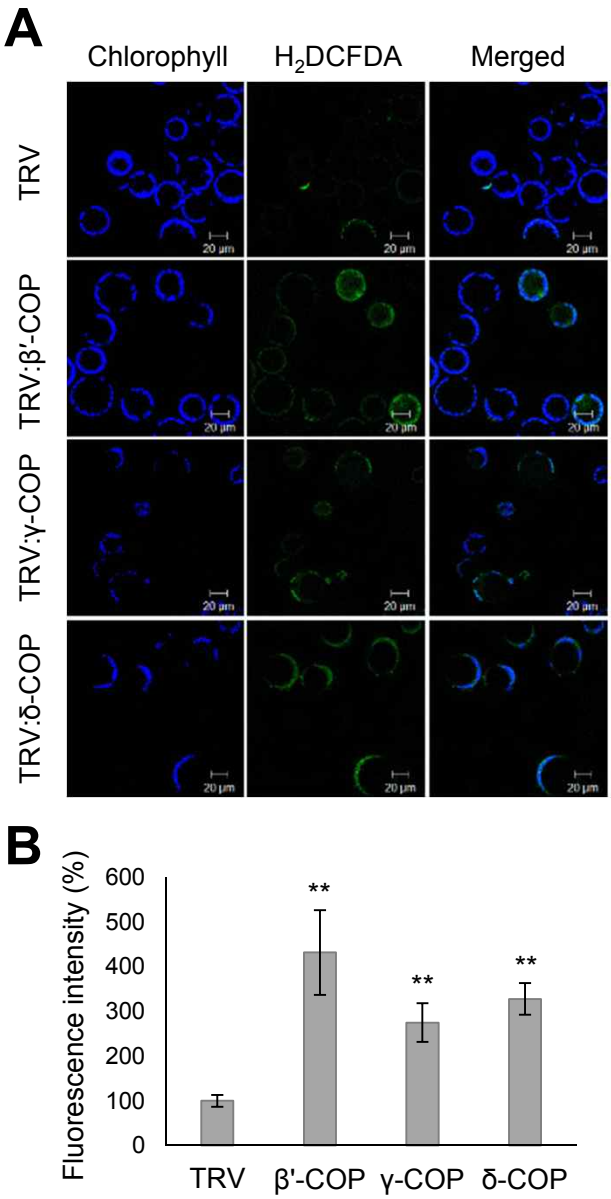

Fig. S5. H_2DCFDA staining to detect reactive oxygen species (ROS).

Cellular ROS levels of TRV control, TRV:β′-COP, TRV:γ-COP, and TRV:δ-COP were detected (A) and quantified (B) by H_2DCFDA fluorescence levels at 15 DAI. Chlorophyll autofluorescence is pseudo-colored blue. Data points represent means ± SD of 30 individual protoplasts. Asterisks denote statistical significance of the differences between COPI VIGS and TRV control samples: *, P ≤ 0.05; **, P ≤ 0.01. Scale bars = 20 μm.

Figure S6

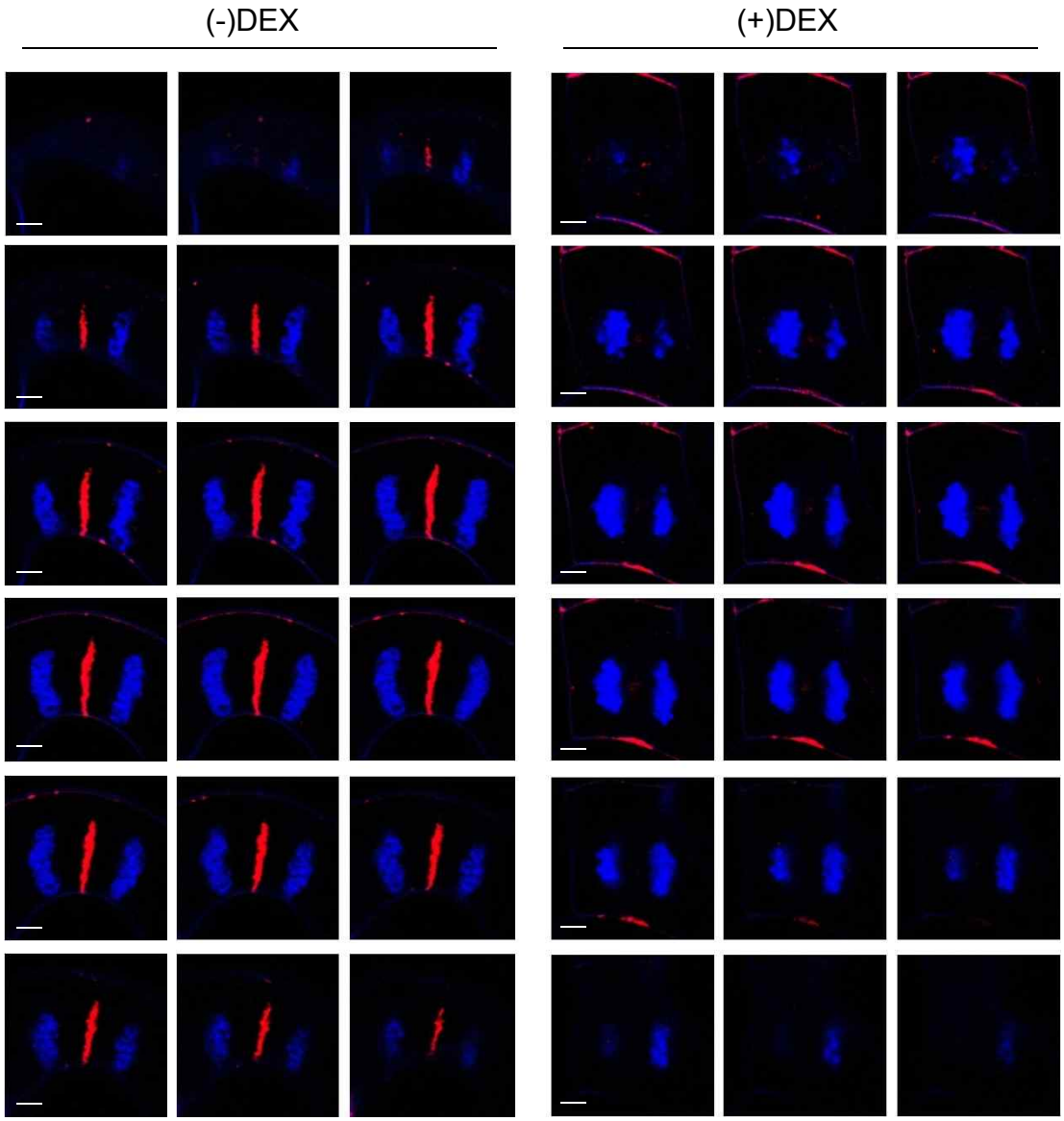

Fig. S6. Visualization of the newly forming cell plate during cytokinesis.
The DEX-inducible *β′-COP* RNAi BY-2 cells were treated with ethanol (-DEX) or 15 μM DEX (+DEX) and stained with DAPI (blue) and FM4-64 (red) for visualization of the nuclei and the cell plate, respectively. Confocal microscopy revealed images of consecutive serial sections of a BY-2 cell undergoing cytokinesis. Scale bars = 10 μm.