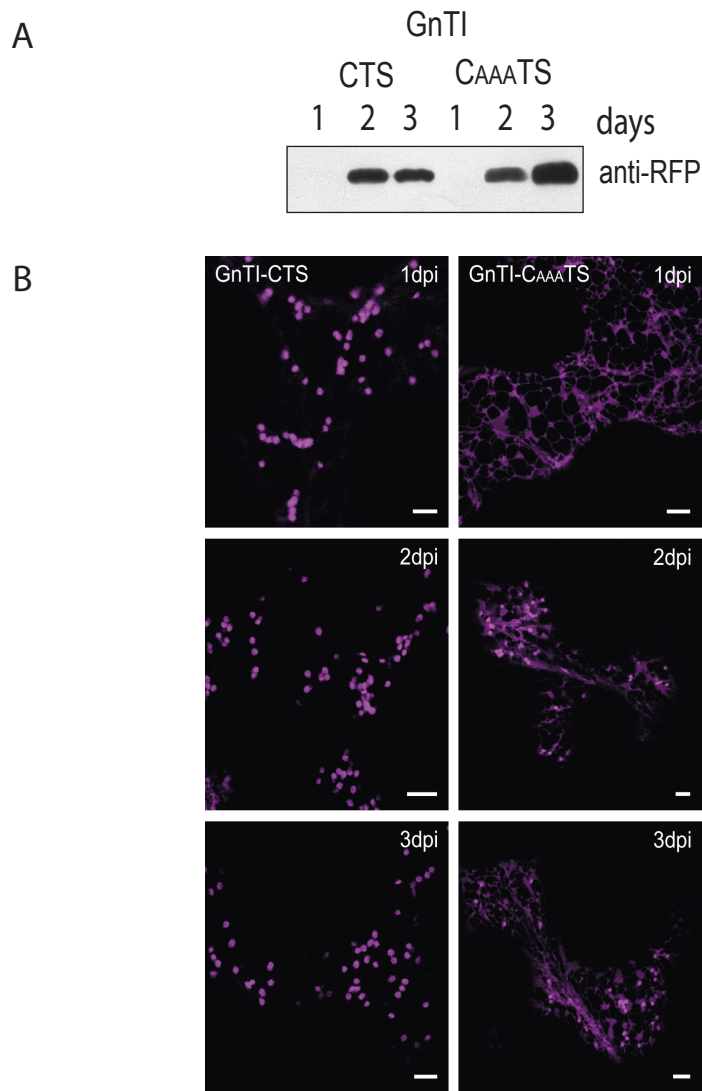
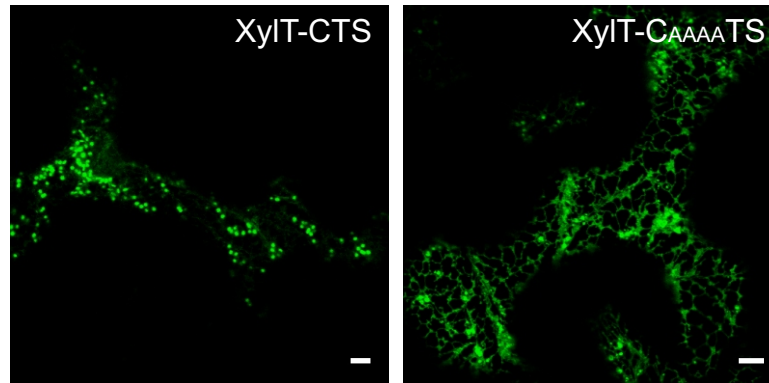


Name	Sequence
Ath-MII-40F	ATCTAGAATGCCACGAAAACGAACTCTCGTAG
Ath-MII-41F	ATCTAGAATGCCAGCAGCAGCAACTCTCGTAGTC
Ath-MII-42R	AGGATCCGAGAGTGAGGAGGAAGAAGA
Ath-MII-44R	AGGATCCCCGATTGGATCTGGAGGTAAG
Ath-MII-48F	ATCTAGAATGCCAGCAAAGCAACTCTCGTAGTC
Fc-1F	TATAGGATCCGCACCTGAACTCCTGGGGGGAC
Fc-1R	TATAAGATCTTTTACCCGGAGACAGGGAGAGGCTC
GCSI-1	ATCTAGAATGACCCGGAGCTAGCCGTCCGAGC
GCSI-2	TGGTACCCGAGATTCGTCTTGAAAGCACCG
GCSI-3	TGGATCCAAAAGGAGTGATAACCCTAGGCTTC
GCSI-4	TGGTACCTATTGGTTGGGTTAATCATATTAGGG
mRFP1	TATAGTGCACATGGCCTCCTCCGAGGACGTC
mRFP2	TATAGGATCCTTAGGCGCCGGTGGAGTGG
mRFP3	TATAGGTACCATGGCCTCCTCCGAGGACGTC
mRFP5-F	TATAGGATCCGCCTCCTCCGAGGACGTCATCAAG
mRFP6-R	TATAGTGCACTTATAATTCATCATGGGCGCCGGTGGAGTGCGGCCCTCG
NtC3F	CTAGATGAGAGGGTACGCGTTTTGCTGTGATTTCCGCTAC
NtC3R	GCGAAATCACAGCAAACGCGTACCCTCTCAT
NtC4F	CTAGATGGCAGGGTACGCGTTTTGCTGTGATTTCCGGTAC
NtC4R	CGGAAATCACAGCAAACGCGTACCCTGCCAT
NtC8F	CTAGATGGCAGGGTACGCGTTTTGCTGTGATTTCCGCTAC
NtC8R	GCGAAATCACAGCAAACGCGTACCCTGCCAT
NtGnTI-1	TATAAAGCTTCTAGATGAGAGGGTACAAGTTTTG
NtGnTI-11F	CTAGAATGAGAGGGTACAAGTTTTGCTGTGATTTCCGGTACCTCCTCATCTTGGCTGCTGTCGCCTTCATCTACATACAGATGCGGCTTTTTAGTAC
NtGnTI-11R	TAAAAAGCCGCATCTGTATGTAGATGAAGGCGACAGCAGCCAAGATGAGGAGGTACCGGAAATCACAGCAAACCTTGTACCCTCTCATT
NtGnTI-12F	CTAGAATGTACCTCCTCATCTTGGCTGCTGTCGCCTTCATCTACATACAGATGCGGCTTTTTGGTAC
NtGnTI-12R	CAAAAAGCCGCATCTGTATGTAGATGAAGGCGACAGCAGCCAAGATGAGGAGGTACATT
NtGnTI-13F	TATATCTAGAATGAGAGGGTACAAGTTTTG
NtGnTI-14F	GTGGTTTTCCGGTATCAAACGTCCAGAC
NtGnTI-14R	GTCTGGACGTTTGATACCGGAAAACCAC
NtGnTI-15R	TATAGGATCCAGTATCTTCATTTCCGAGTTGTT
NtGnTI-16R	TATAGGATCCCTGACGCTTCATTTGTTT
NtGnTI-2	TATAGTGCACCTGACGCTTCATTTGTTT
XT-C1F	CTAGAATGAGTAAACGGAATCCGAAGATTCTGAAGTAC
XT-C1R	TTCAGAATCTTCGGATTCCGTTTACTCATT

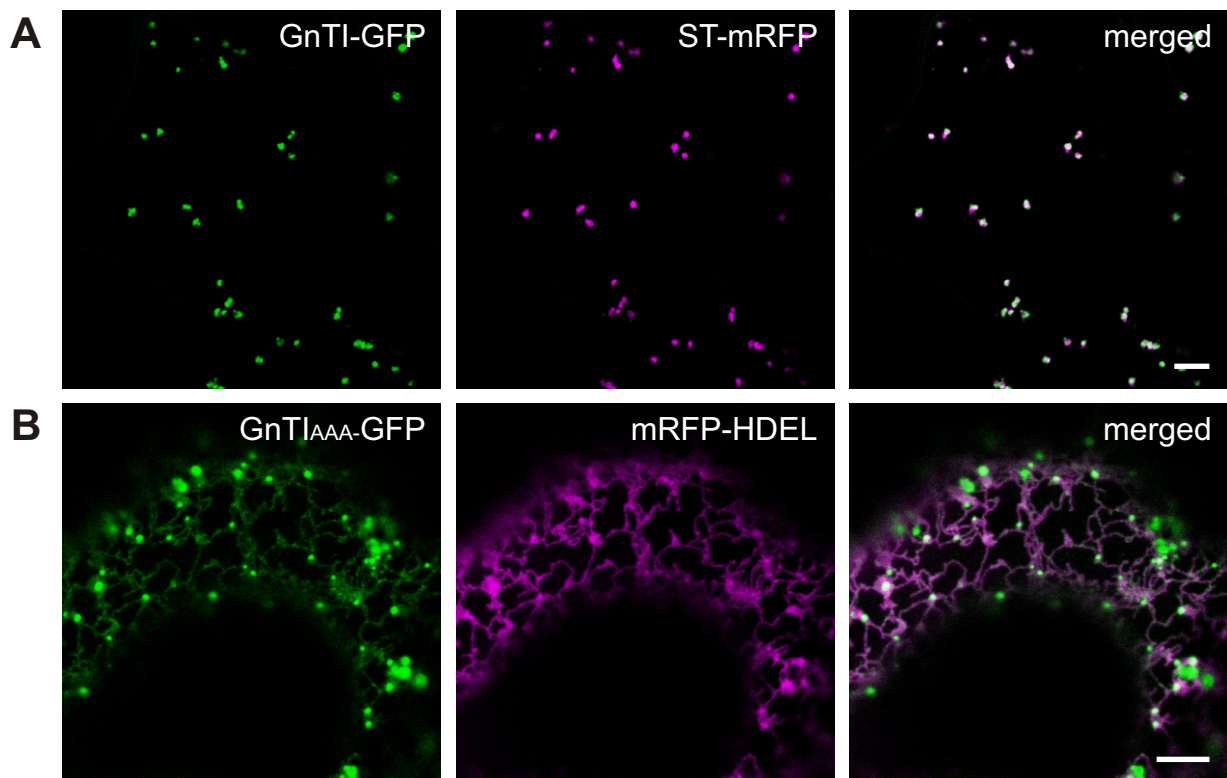
Supplementary Table S1



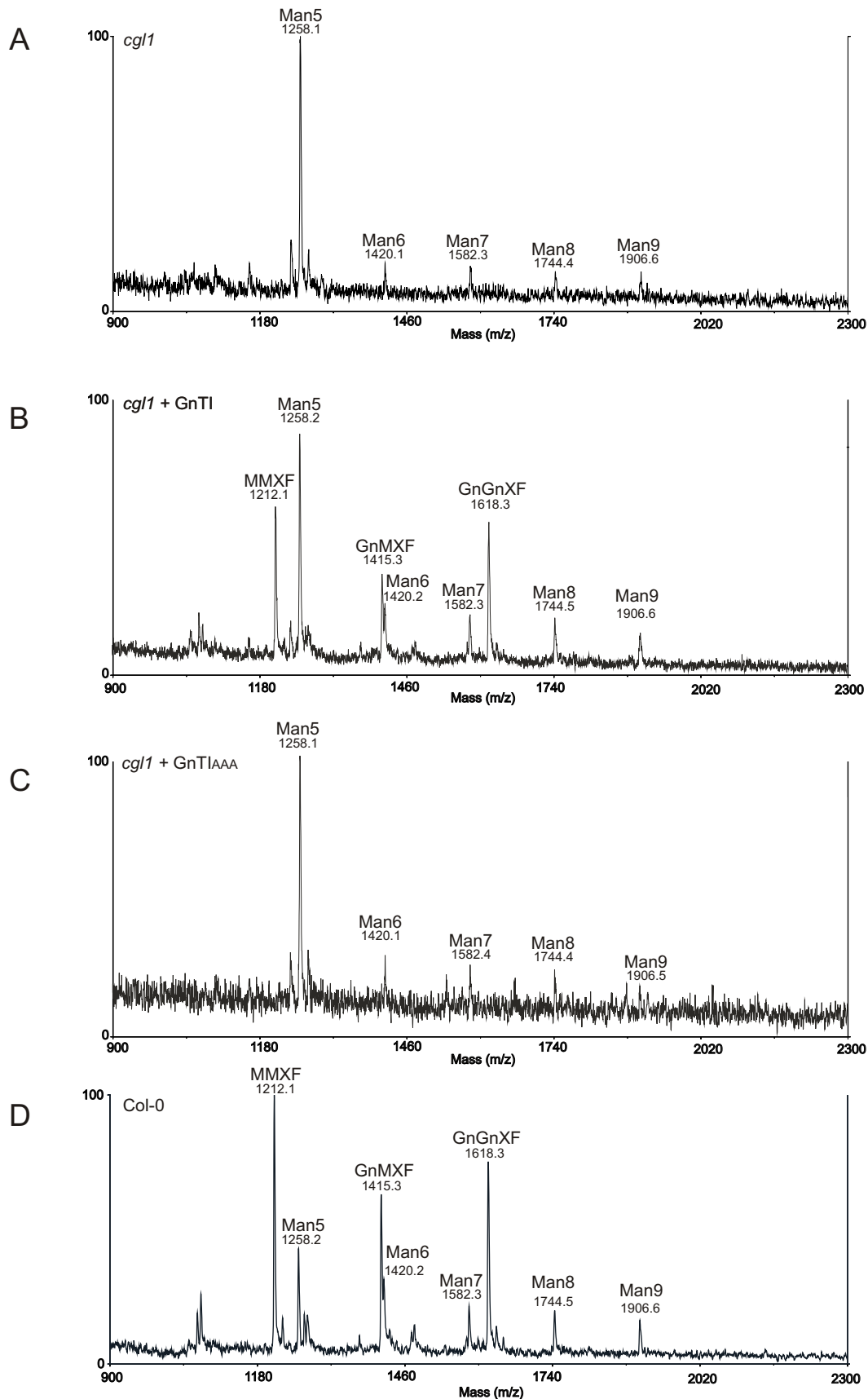
Supplementary Figure S1. Time-course of *N. benthamiana* leaf epidermal cells expressing wildtype and tail-mutated GnTI chimeras. (A) Western blot analysis of *N. benthamiana* leaf epidermal cells expressing GnTI-CTS-mRFP and the tail mutated form GnTI-CAAATS-mRFP. Proteins were extracted 1 to 3 days postinfiltration, subjected to SDS-PAGE (12%) and analyzed by immunoblotting using anti-RFP antibodies (B) GnTI-CTS-mRFP and GnTI-CAAATS-mRFP were expressed in *N. benthamiana* leaf epidermal cells and imaged 1 dpi, 2 dpi and 3 dpi. The wildtype GnTI fusion predominantly localized to Golgi stacks throughout the entire time course. The tail-mutated GnTI fusion predominantly marked the ER with a slight increase of Golgi labelling over time. Scale bar = 5 μ m for all images.



Supplementary Figure S2. Confocal images of wildtype and tail-mutated XylT-GFP transiently expressed in *N. benthamiana* leaf epidermal cells. The wildtype XylT-CTS-GFP fusion targets its steady-state location, which is the Golgi apparatus. Note the faint ER staining that occasionally showed up. Similarly to the tail-mutated forms of GnTI and GMII, XylT-C_{AAAA}TS-GFP fails to exit from the ER, which points out the importance of basic amino acids in the cytoplasmic tail to ER export and Golgi localization. Scale bar = 5 μ m for all images.



Supplementary Figure S3. The subcellular localization of wildtype and tail-mutated full-length GnTI fusion proteins is identical to their GnTI-CTS forms. A) Confocal images of a *N. benthamiana* leaf epidermal cell coexpressing full-length GnTI-GFP with the Golgi marker ST-mRFP. B) Images of full-length GnTI_{AAA}-GFP coexpressed with the ER marker mRFP-HDEL. Scale bar = 5 μ m for all images.



Supplementary Figure S4: Matrix-assisted laser desorption ionization-time of flight/time of flight mass spectrometry (MALDI-TOF-MS) analyses of total N-glycans extracted from leaves of transformed *cgl1* plants. Analysis was done as described previously (Strasser et al., 2005). (A) *cgl1*: untransformed control displays oligo-mannosidic N-glycan structures as described previously (von Schaeuwen et al., 1993; Strasser et al., 2005). (B) *cgl1 + GnTI*-GFP (line 6) shows the formation of complex N-glycan structures (MMXF, GnMXF, GnGnXF), but the N-glycan pattern is not completely restored compared to wildtype plants. (C) *cgl1 + GnTIAAA*-GFP (line 8) shows no detectable complex N-glycans, indicating the absence of GnTI in the Golgi apparatus. (D): Col-0: N-glycan structures found in wildtype plants. See <http://www.proglycan.com> for an explanation of N-glycan abbreviations.