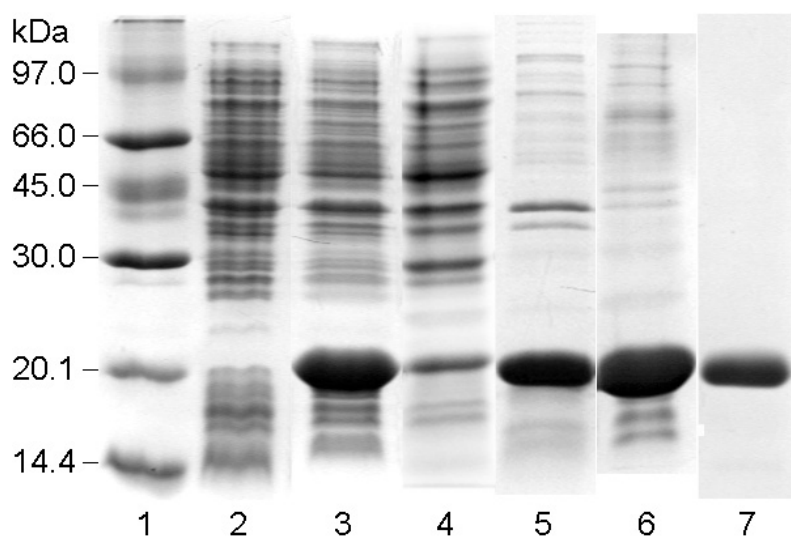


## SUPPLEMENTAL DATA

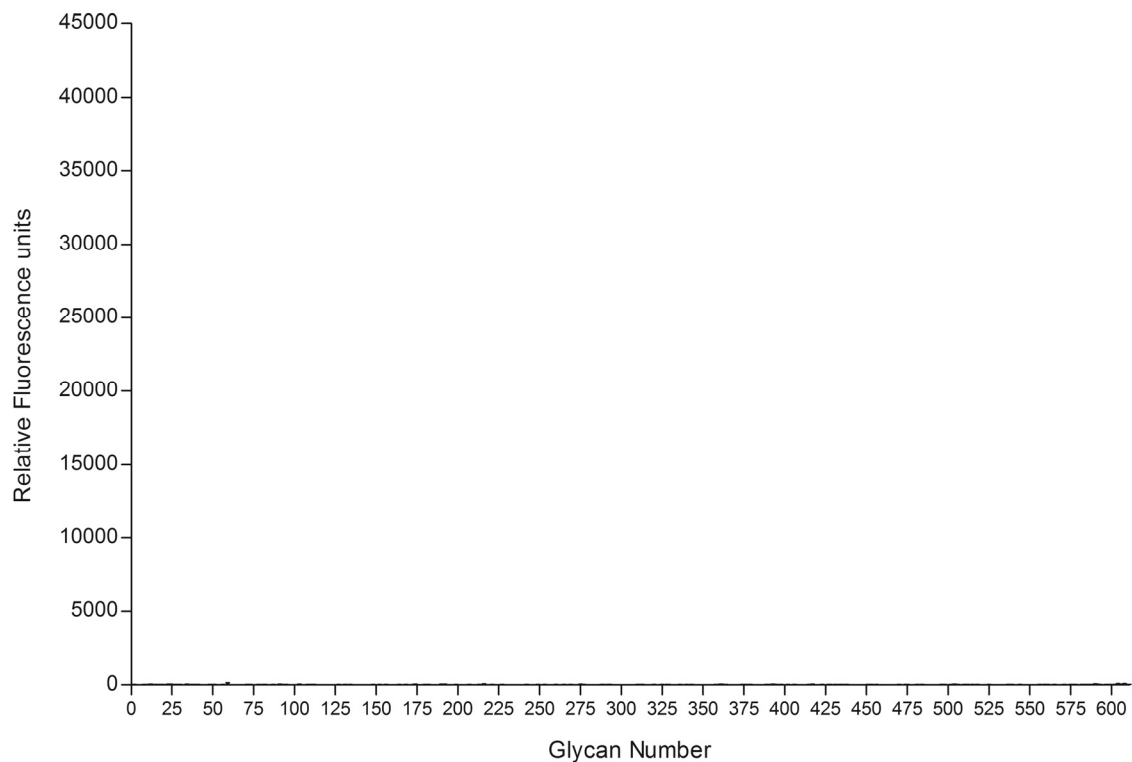
Figure S1



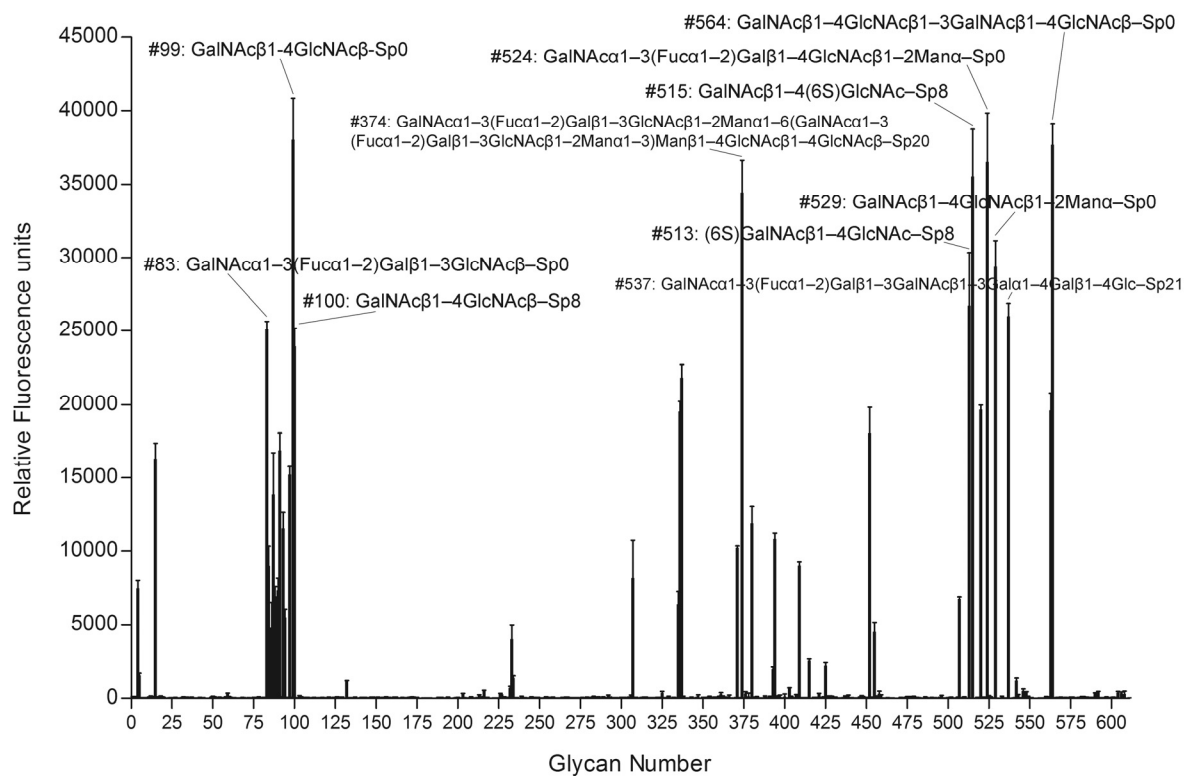
**FIGURE S1. SDS-PAGE analysis of expression at 37°C and purification of recombinant CNL.** Lane 1, low molecular weight standard proteins; crude cell extract of *E. coli* BL21(DE3) containing pET11a::rCNL before (lane 2) and after (lane 3) induction; lane 4, soluble fraction of cell lysate; lane 5, soluble fraction after 1 M urea solubilization; lane 6, soluble fraction after 3 M urea solubilization; and lane 7, purified rCNL by gel filtration and lactose-affinity chromatography.

Figure S2

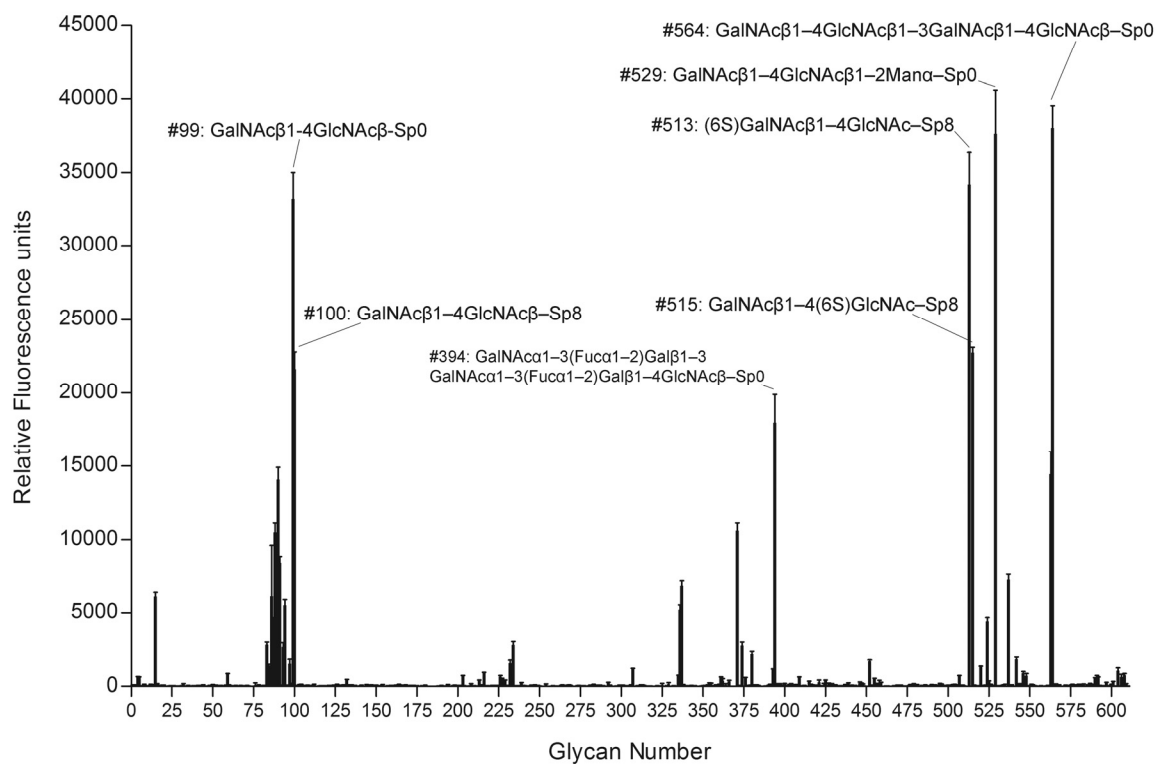
A



B



C



D

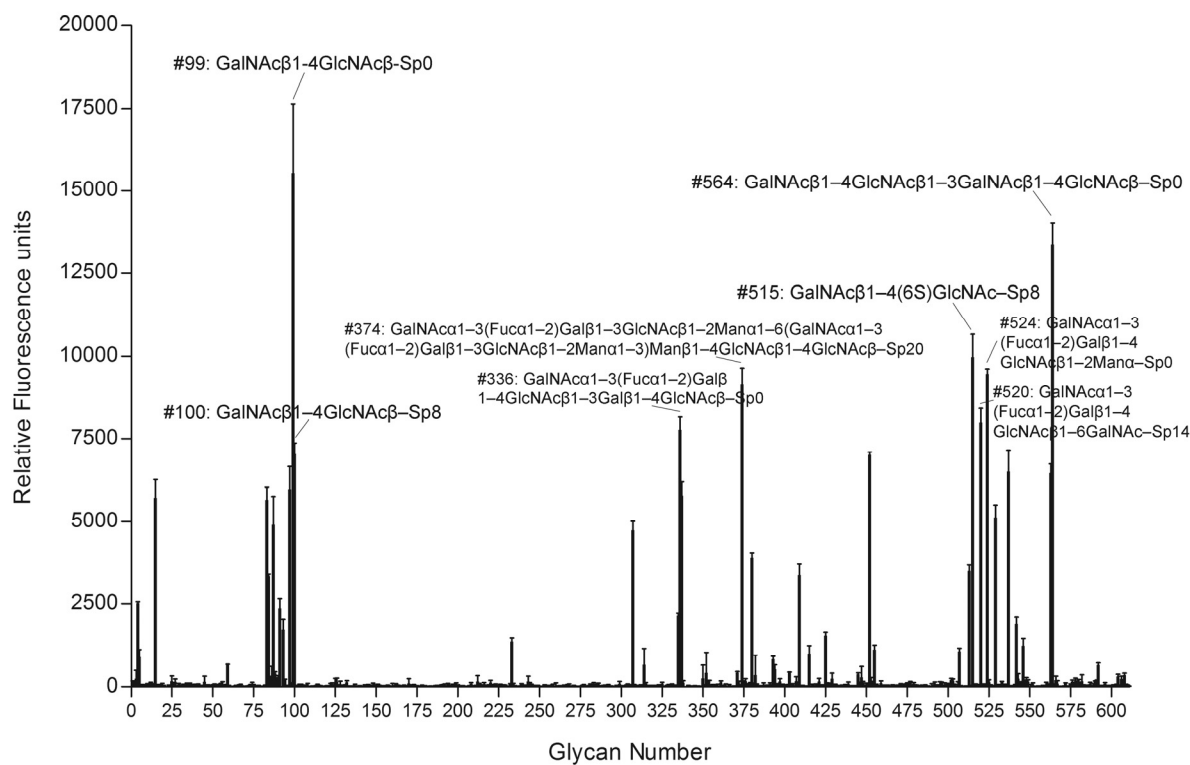
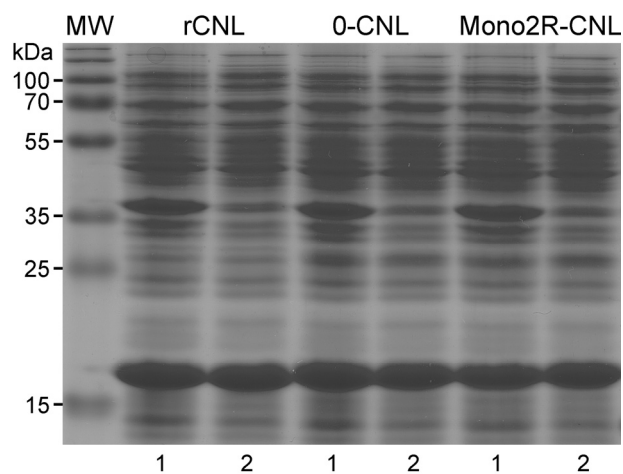


FIGURE S2. **Glycan-binding specificity of CNL mutants.** Glycan microarray analyses of a non-sugar-binding mutant 0-CNL with a concentration of 200  $\mu$ g/ml (A), and non-dimerizing monovalent mutants, Mono1-CNL (100  $\mu$ g/ml; B), Mono2R-CNL (200  $\mu$ g/ml; C), and Mono2W-CNL (200  $\mu$ g/ml; D), were performed using Mammalian Printed Array version 5.0 of the Consortium for Functional

Glycomics. *Bars* represent relative fluorescence units indicating the specificity of a mutant for individual glycans and *error bars* represent standard deviations of the mean fluorescence. The high-affinity glycans with designated numbers on the glycan microarray are presented.

Figure S3



**FIGURE S3. SDS-PAGE analysis of rCNL and 0-CNL and Mono2R-CNL mutants expressed in *Escherichia coli* BL21(DE3) strain overnight at 23°C. Lanes indicated by 1 represent whole cell extracts, and 2, soluble fractions of the crude *E. coli* extract. MW indicates a prestained standard protein ladder (Fermentas).**

Figure S4

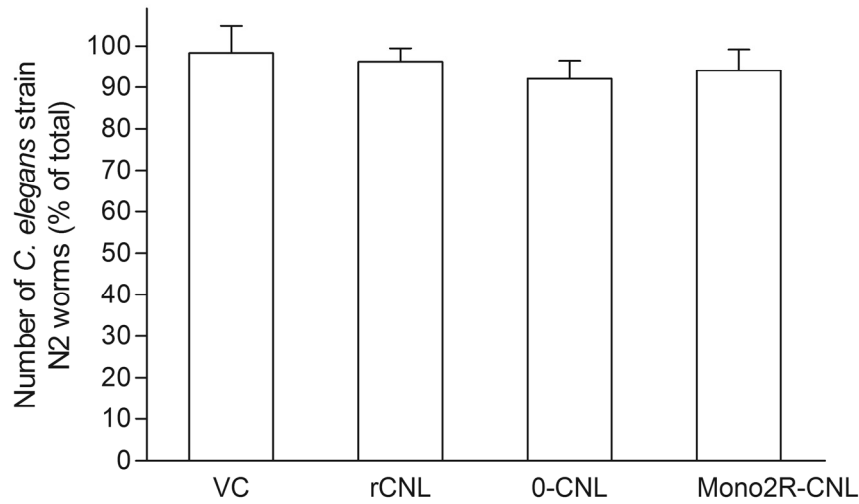


FIGURE S4. **Biotoxicity assay of rCNL and mutants on wild-type N2 *C. elegans* nematodes.** Bars represent means of percentage of total numbers of larval stage L4 or adult animals after 48 h at 20°C in five replicates and *error bars* represent standard deviations. *VC* stands for vector control – *E. coli* containing empty vector. Groups of treated larvae or adults were compared pairwise with vector controls using the two-sample *t*-test. No statistically significant differences were found.