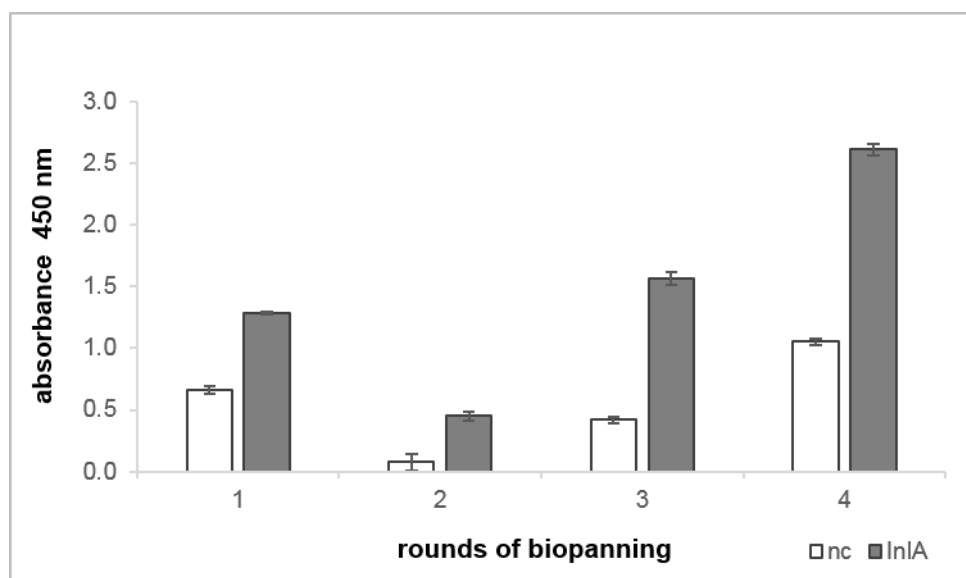
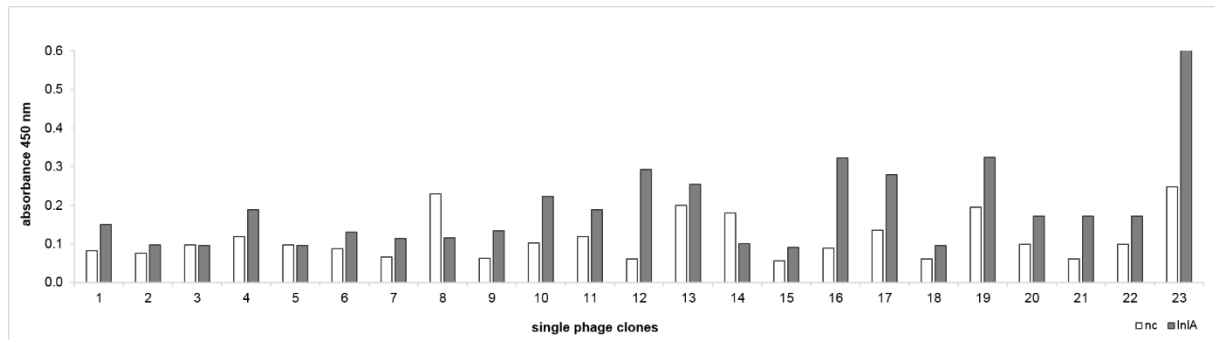


## Supplementary Materials

We performed the enrichment ELISA to visualize the successful selection of InlA binding phages after each round of biopanning. The assay was performed as described for single phage ELISA in the methods section, but instead of amplified single phages, 80  $\mu$ l of the eluated, recovered phage pools after each round of selection were used, preincubated for one hour in blocking buffer. The results demonstrated successful enrichment of binders in the third and fourth round of selection.



**Figure S1.** Screening of recovered phages for binding efficiency after each round of biopanning against InlA (enrichment ELISA). 10  $\mu$ g InlA were coated and incubated with eluated phages after four selection rounds against InlA. Bound phages were detected by ELISA using anti-M13:HRP conjugate and measurement of absorbance at 450 nm. Nc represents the negative control without InlA. The presented values are the means of two measurements and error bar represents the standard deviation.



**Figure S2.** Screening of single phage clones for binding affinity to InlA. 10  $\mu$ g InlA were coated and incubated with peptide presenting single phage clones. Bound phages were detected by ELISA using anti-M13:HRP conjugate and measurement of absorbance at 450 nm. Nc represents the negative control without InlA. 150 single clones were tested, 23 are shown as an example.