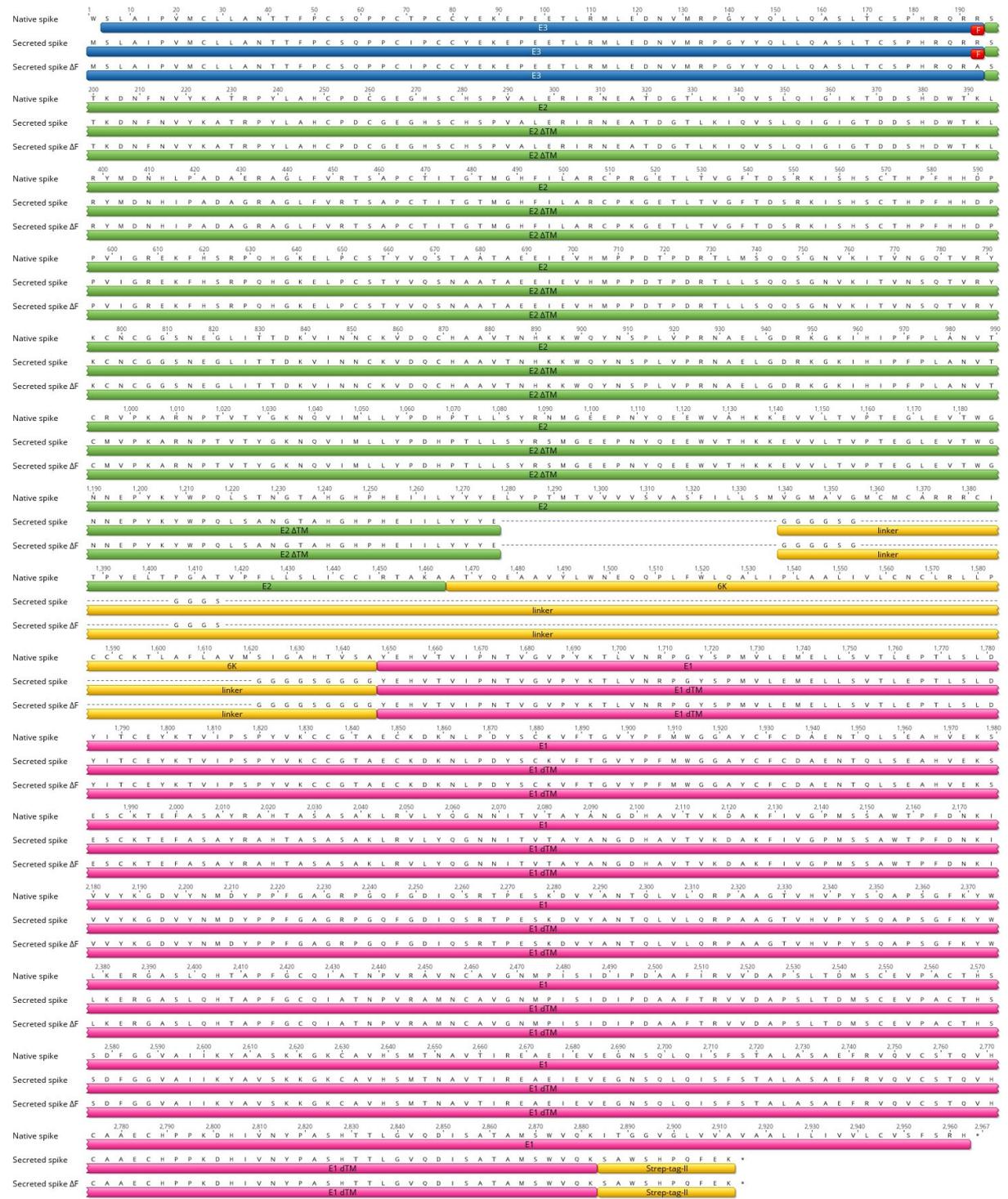


## Supplementary data



**Figure S1.** Native and secreted spike heterodimer precursors amino acid alignment. The native CHIKV spike heterodimer precursor, E3-E2-6K-E1, contains transmembrane domains in E2, 6K and E1. Secreted spikes are formed by connecting the CHIKV E3E2 and E1 ectodomains with a glycine-serine linker to replace the E2 transmembrane domain (TM) and 6K. The C-terminal E1 transmembrane domain is replaced by a Strep-tag-II sequence. The native and secreted spike contain a furin cleavage site (F) between E3 and E2. The secreted spike furin cleavage site mutant ( $\Delta$ F) has a disrupted furin cleavage site (E3 R65A mutation) preventing cellular furin cleavage of E3.