Description of Additional Supplementary Files:

Supplementary Data 1: Design characteristics and initial experimental screening data for all the epitope scaffolds tested experimentally. FP, S2hlx and S2hlx-Ex epitope scaffolds originate from diverse parent proteins. Epitope scaffolds were expressed recombinantly in E. Coli and tested for binding to spike815-823 and stem helix targeting mAbs by ELISA (+++ denotes high affinity; ++ moderate affinity; + low affinity). SC= side chain; BB=backbone; AF= AlphaFold2.