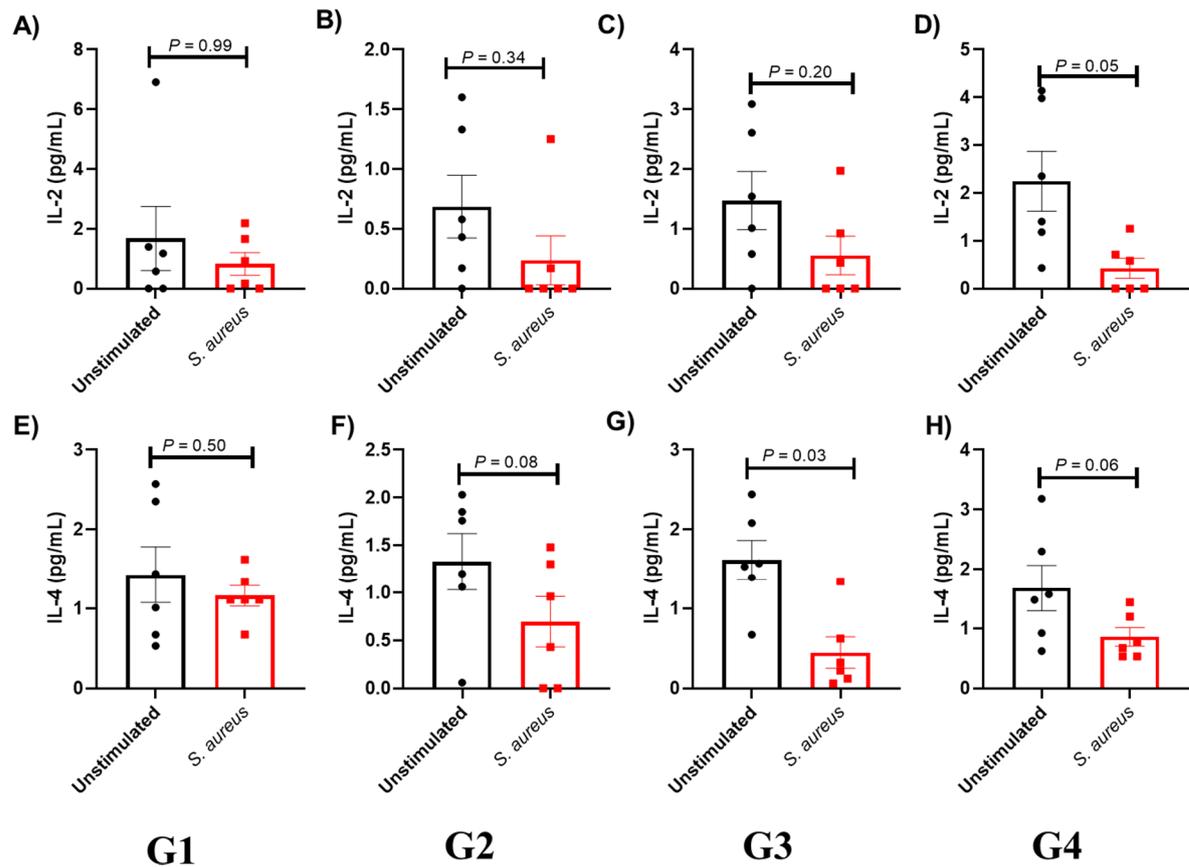
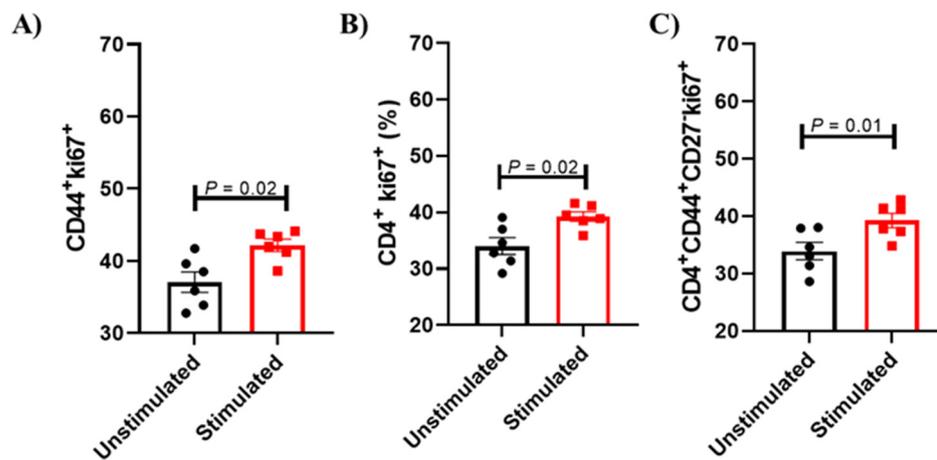


**Supplementary Figure S1. SDS-PAGE analysis of *Staphylococcus aureus* recombinant proteins.** Coomassie blue-stained 12% SDS-PAGE analysis of cell lysate insoluble fraction and purified fractions resulting from IPTG-induced bacterial cultures showing bands in the expected sizes for *S. aureus* recombinant proteins. MM: molecular mass in kDa. Bands of approximately 52.5 kDa, 56.2 kDa and 52.7 kDa referring to succinyl-diaminopimelate (SDD), F<sub>0</sub>F<sub>1</sub> ATP synthase subunit  $\alpha$  (SAS) and cysteinyl-tRNA synthetase (CTS) proteins were observed, respectively. SDS-PAGE: Polyacrylamide Gel Electrophoresis; IPTG: Isopropyl  $\beta$ -D-1-thiogalactopyranoside.



**Supplementary Figure S2. Cytokine concentration in the supernatant of the immunized and non-immunized mouse spleen cells culture under unstimulated (basal) and *Staphylococcus aureus* stimulated conditions.** IL-2: interleukin-2; IL-4: interleukin-4; G1: unvaccinated control group; G2: GM-CSF DNA plasmid DNA vaccination; G3: SAS+SDD+CTS *S. aureus* recombinant proteins vaccination; G4: SAS+SDD+CTS *S. aureus* recombinant proteins vaccination associated with GM-CSF DNA plasmid DNA vaccine; SAS: F0F1 ATP synthase subunit  $\alpha$ ; SDD: succinyl-diaminopimelate; CTS: cysteinyl-tRNA synthetase. [Student t test (A, D, E, F, G and H) and Wilcoxon test (B and C)].



**Supplementary Figure S3. Proliferative responses of lymphocytes in mice vaccinated with the three recombinant proteins and the GM-CSF DNA vaccine.** **A)** Percentage of proliferative (ki67<sup>+</sup>) overall memory T cells (CD44<sup>+</sup>), **B)** CD4<sup>+</sup> cells, and **C)** CD4<sup>+</sup> T effector memory (CD44<sup>+</sup> CD27<sup>+</sup>) under unstimulated and *S. aureus* stimulated conditions in mice (n = 6) vaccinated with the three recombinant proteins and the GM-CSF DNA vaccine. GM-CSF: Granulocyte-Macrophage Colony-Stimulating Factor. [Student t test].