

Figure S1: Ratios of IgG1/IgGt and IgG4/IgGt in sera from 40 Algerian volunteers. A: Median of the ratios of IgG1/IgGt in sera from 10 Algerian patients with either joint (dark grey), respiratory (light grey bars) or skin (white bars) *S. aureus* infections, and sera from 10 Algerian control patients without *S. aureus* infection (black bars). On the x-axis the 40 tested *S. aureus* antigens are listed. The y-axis shows the median of the ratios of the IgG1/IgGt signal for each particular antigen. Dotted lines mark 60% (the reported ratio of IgG1/IgGt), 30% (50% of this reported value) and 90% (150% of this reported value) B: Same as for Figure 1A, but showing the IgG4/IgGt ratios, with interquartile ranges. The dotted line marks 5%, which is the reported ratio of IgG4/IgGt.

Figure S2: Ratios of IgG1/IgGt and IgG4/IgGt with interquartile ranges in sera from 25 Sudanese patients with *S. aureus* skin infection and 60 healthy Sudanese volunteers. A: Median of the ratios of IgG1/IgGt in sera of 25 Sudanese patients with *S. aureus* skin infection (white bars) and 60 Sudanese volunteers (black bars). On the x-axis the 38 tested *S. aureus* antigens are listed (note that SasG and SEB were not included in this particular analysis). The y-axis shows the median of the ratios of the IgG1/IgGt signal for each particular antigen. Dotted lines mark 60% (the reported ratio of IgG1/IgGt), 30% (50% of this reported value) and 90% (150% of this reported value). B: Same as for Figure 2A, but showing the IgG4/IgGt ratios. The dotted line marks 5%, the reported ratio of IgG4/IgGt.

Figure S3: Ratios of IgG1/IgGt and IgG4/IgGt with interquartile ranges in sera from 10 Dutch bacteraemic patients during disease progression A: Median of the ratios of IgG1/IgGt in 10 Dutch bacteraemic patients during disease progression. White bars, IgG1/IgGt ratio at diagnosis. Light grey bars, IgG1/IgGt ratio 1 week after diagnosis. Dark grey bars, IgG1/IgGt ratio at 2 weeks after diagnosis. Black bars, IgG1/IgGt ratio 3 weeks after diagnosis. On the x-axis the 17 antigens with increase in either IgGt, IgG1 and IgG4 signal are depicted. The y-axis shows the median of the ratios of the IgG1/IgGt signal for each particular antigen. The dotted lines mark 60% (the reported ratio of IgG1/IgGt), 30% (50% of this reported value) and 90% (150% of this reported value). B: Same as for Figure 3A, but showing the IgG4/IgGt ratios. The dotted line at 5% marks the reported ratio of IgG4/IgGt.

Table S1: Origin of purified *S. aureus* antigens used for Luminex analyses

Table S2A: Significant differences in antistaphylococcal responses between Algerian controls and patients with joint, respiratory or skin infections. Values shown are P values, cutoff was at $p < 0,0013$.

Bold indicates healthy controls have significantly higher MFI values than infected patients. *Italic indicates infected patients have significantly higher MFI values than healthy controls.*

(a) control minimum: 5348, control maximum: 14239, interquartile range 5301 joint minimum: 9237, control maximum: 16473, interquartile range 1726.

(b) control minimum: 5549, control maximum: 15303, interquartile range: 2982 skin minimum: 13267, control maximum: 17018, interquartile range 1436

(c) control minimum 5348, maximum: 14239, interquartile range 5301 skin minimum: 12690, maximum: 16565, interquartile range 2335

Table S2B: Significant differences in antistaphylococcal responses between Sudanese controls and patients with skin infections. Values shown are P values, cutoff was placed at $p < 0,0013$. **Bold indicates**

healthy controls have significantly higher MFI values than infected patients. *Italic indicates infected patients have significantly higher MFI values than healthy controls.*

(a) control minimum: 3726 control maximum: 18287 interquartile range 6217 skin minimum: 8040 control maximum: 18936 interquartile range 2912

(b) control minimum: 125, control maximum: 9693, interquartile range 2515 skin minimum: 42, control maximum: 5953, interquartile range 2960

(c) control minimum: 1450, control maximum: 12920, interquartile range 4404 skin minimum: 5254, control maximum: 13125, interquartile range 3034

Table S3A: Number of patients with bacteremia showing increased responses to tested antigens

Table S3B: Antigens to which each individual patient undergoing bacteremia responded

Table S3C: Significant differences in antistaphylococcal responses between Dutch persistent nasal carriers and non-carriers. Values shown are P values, cutoff was placed at $p < 0,0013$. **Bold indicates non carriers have significantly higher MFI values than carriers.** *Italic indicates carriers have significantly higher MFI values than non-carriers.*

(a) carriers minimum: 4214 control maximum: 17047, interquartile range 4277 non-carriers minimum: 19, control maximum: 15335, interquartile range 9498

(b) carriers minimum: 1628 control maximum: 7744 interquartile range 1274 non-carriers minimum: 9,5 control maximum: 7398 interquartile range 4397

(c) carriers minimum: 3250, control maximum: 10137, interquartile range 3967 non-carriers minimum: 7, control maximum: 5557 interquartile range 3099