Table 6

Protein name	React on SA5	React on SA8	React on SE Hay
IsaA	+++	+++	+++
ClfA	+	++	++
Atl amidase	-	++	+
IsdB	+++	+++	+++
SdrG	+	+	+
Glucosamidase	-	-	-
HarA (1 inject.)	+	+	+
IsdA	-	-	-
Alpha toxin	-	-	+
SrdC	-	-	-
Ebh	-	+	-
AaA	-	-	-
MRP	-	-	++
Sbi	-	+++	-
FnbpA	-	++	++

Example 89

Efficacy of combinations of staphylococcal proteins in a nasal colonization model.

Fifteen groups of three cotton rats were inoculated with combinations of eight staphylococcal antigens and five cotton rats which acted as controls were treated with no antigen. These sixteen groups are as follows:

Group 1 – Atl-glucosamine, Atl-amidase, AAA, alpha toxin, SdrC, SdrG, Ebh, Sbi
Group 2 - Atl-glucosamine, Atl-amidase , IsdA, IsdB, ClfA, SdrC, Ebh, FnbpA
Group 3 - Atl-glucosamine, Atl-amidase, HarA, IsdA, MRP, IsdB, AAA, alpha toxin
Group 4 - Atl-glucosamine, HarA, IsdA, AAA, ClfA, IsaA, Ebh, Sbi
Group 5 – HarA, MRP, AAA, alpha toxin, ClfA, SdrC, Ebh, FnbpA
Group 6 – IsdA, IsdB, AAA, alpha toxin, ClfA, SdrG, Sbi, FnbpA
Group 7 – Atl-aminidase, IsdA, MRP, AAA, IsaA, SdrG, Ebh, FnbpA
Group 8 – Control
Group 9 – Atl-glucosamine, IsdA, MRP, alpha toxin, IsaA, SdrC, Sbi, FnbpA

CLAIMS

1. An immunogenic composition comprising:

Group a) at least one isolated staphylococcal extracellular component binding protein or immunogenic fragment thereof wherein the said protein is selected from the group consisting of SdrG, laminin receptor, EbhA, EbhB, Elastin binding protein (EbpS), EFB (FIB), SBI, autolysin, ClfA, SdrC, SdrH, Lipase, GehD, FnbA, FnbB, Cna, ClfB, FbpA, Npase, IsaA/PisA, SsaA, EPB, SSP-1, SSP-2, HBP, Vitronectin binding protein, coagulase, and MAP; and

Group c) at least one isolated staphylococcal ~~regulator of virulence,~~ toxin or immunogenic fragment thereof wherein the said ~~regulator or~~ toxin is selected from the group consisting of alpha toxin (HIa), alpha toxin H35L mutant, and alpha toxin H35R mutant ~~and RNA III activating protein (RAP)~~.

2. The immunogenic composition of claim 1 further comprising Group b) at least one isolated staphylococcal transporter protein or immunogenic fragment thereof wherein the said protein is selected from the group consisting of Immunodominant ABC transporter, IsdA, IsdB, Mg2+ transporter, SitC and Ni ABC transporter.

3. The immunogenic composition of claim 1 or 2 comprising:
- ClfA or an immunogenic fragment thereof, and
- alpha toxin (HIa), alpha toxin H35L mutant or alpha toxin H35R mutant or immunogenic fragment thereof.

4. The immunogenic composition of any one of claims 1 to 3 comprising at least one protein or immunogenic fragment from *S. aureus*.

5. The immunogenic composition of any one of claims 1 to 4 comprising at least one protein or immunogenic fragment from *S. epidermidis*.

6. The immunogenic composition of any one of claims 1 to 5 further comprising a PIA polysaccharide or oligosaccharide.

7. The immunogenic composition of any one of claims 1 to 6 further comprising type V and/or type VIII capsular polysaccharide or oligosaccharide from *S. aureus*.