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**Abstract**

Concordia's staph study is aimed at characterizing *Staphylococcus aureus* rates of carriage and gene identification. Among the ethnicities tested, Asian/Pacific Islander were the most likely group to be carrying the Toxic Shock Syndrome superantigen among other ethnicities.

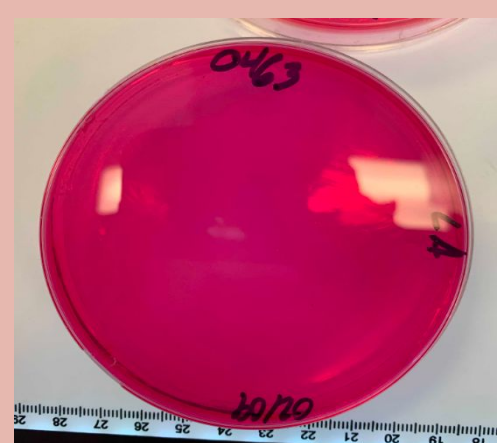
**Background**

*S. aureus* is a gram-positive bacterium that is found in 30% of the population and carries superantigens that allows it to manifest itself in the host. One of those superantigens can cause Toxic Shock Syndrome (TSS), which is life threatening if it becomes symptomatic.

**Methods**

Swabs collected were grown on TSA plates and went through many different tests to confirm strain identification

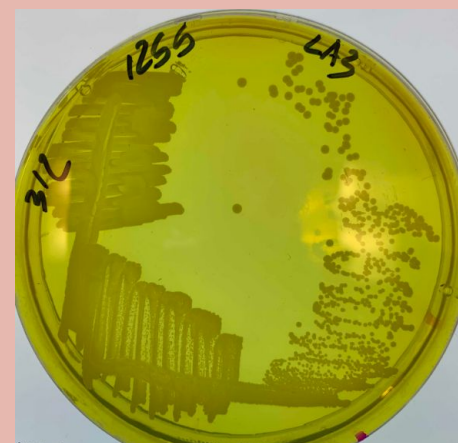
**Negative**



**MSA**

Tests if the bacterium is able to grow in a salty environment

**Positive**

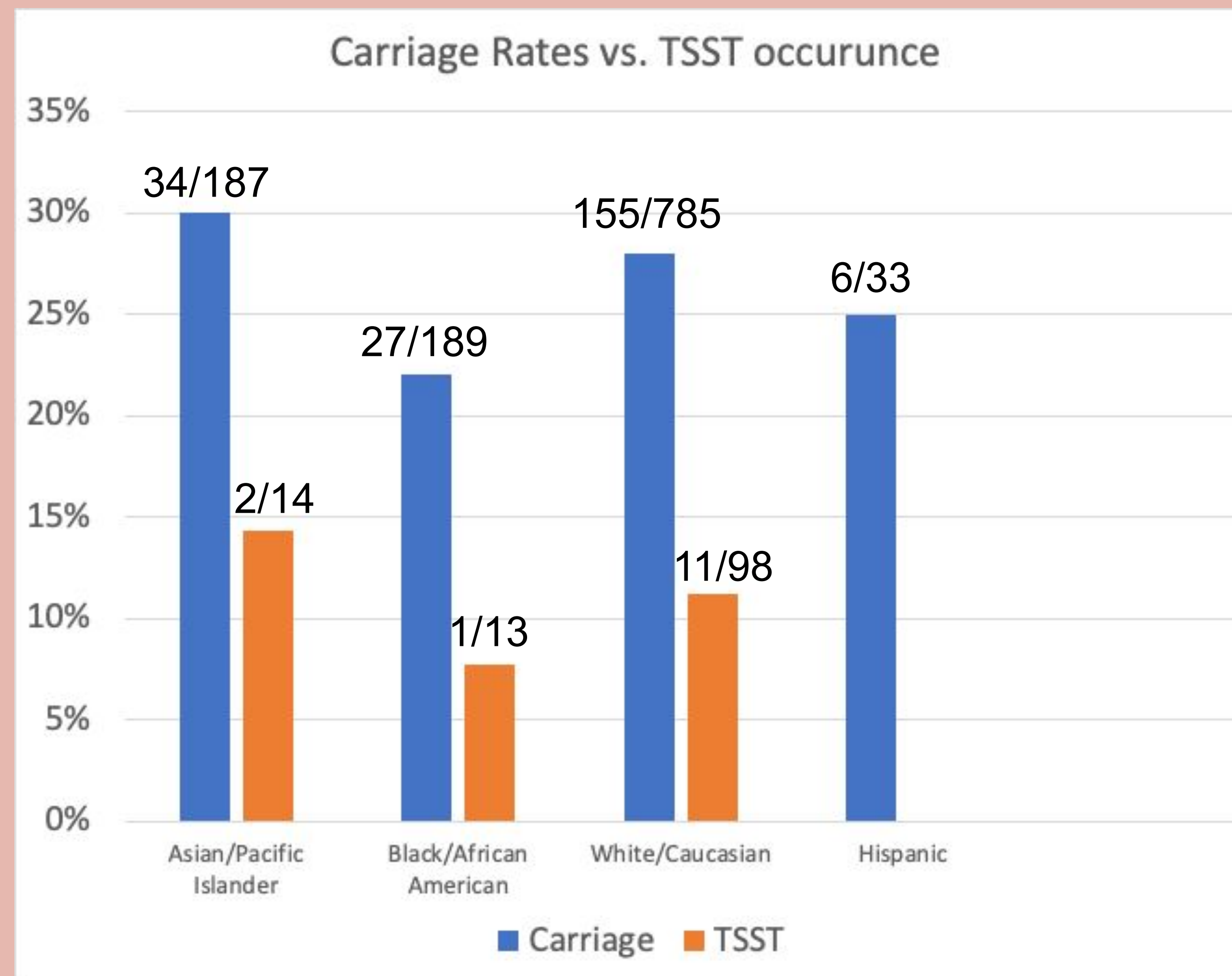


**CNA**

Tests for hemolysins, proteins and lipids that destroy RBC



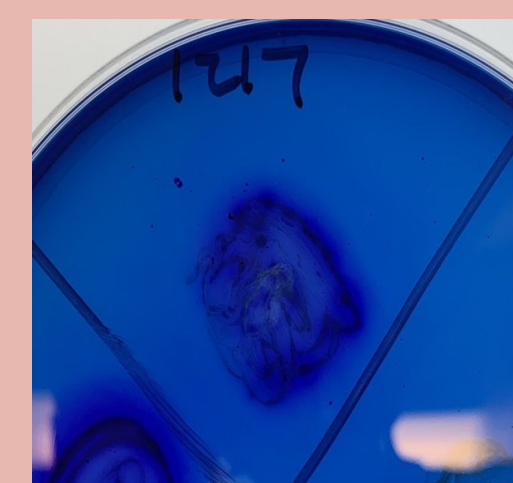
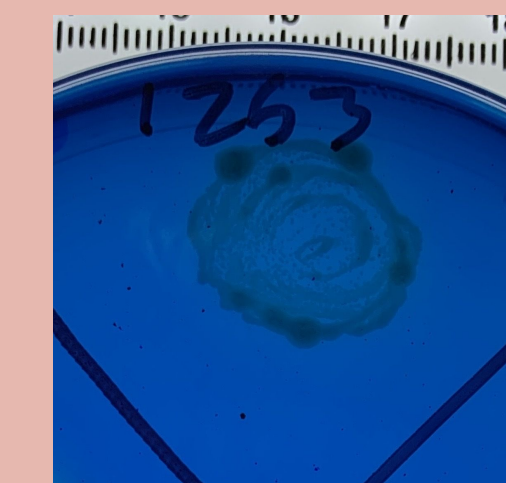
**Asians/Pacific Islanders showed the greatest probability of having Toxic Shock Syndrome gene among Staph carriers**



**Figure 1.** Asian/Pacific Islanders showed the highest carriage rates and occurrence of TSST-1 gene in *S. aureus*. Carriage and TSST-1 occurrence were calculated using the Airtable program. White/Caucasian population showed the second highest carriage and TSST-1 gene, followed by Black/African Americans. Hispanic carriage rates and gene sequencing of the *S. aureus* was insufficient to make a conclusion compared to other ethnicities.

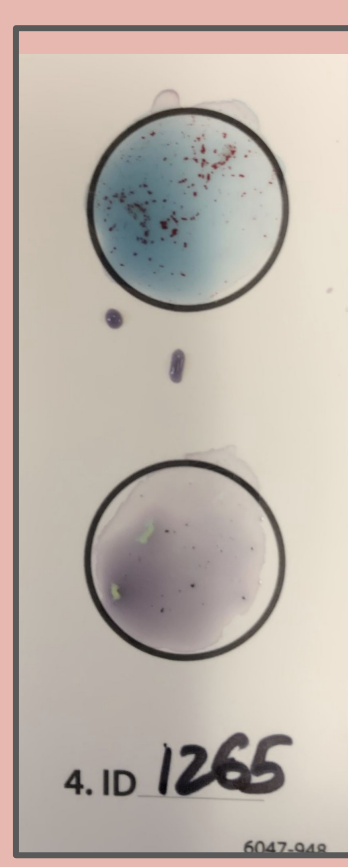
**DNase**

Tests for an enzyme that catalyzes cleavage of linkages in DNA backbone



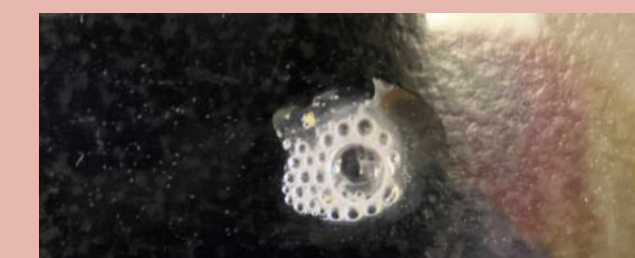
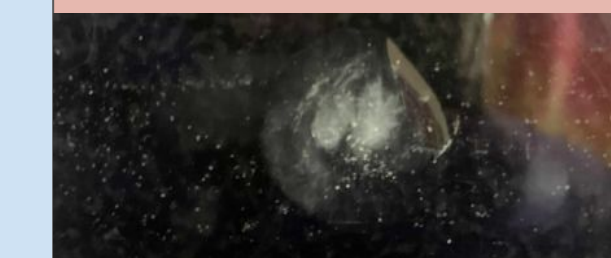
**Coagulase**

Tests for an enzyme that assists with blood clot formation



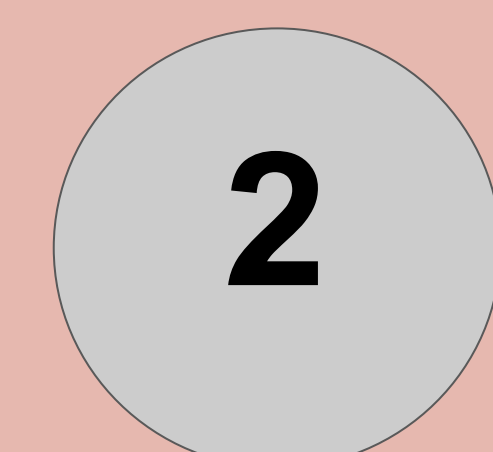
**Catalase**

Tests for presence of enzyme that degrades hydrogen peroxide to protect the bacteria



**Results**

Positive Negative Undetermined



**References and Acknowledgements**

M. A. Strom, D.Y. Hsu, J. I. Silverberg. Prevalence, comorbidities and mortality of toxic shock syndrome in children and adults in the USA. *Microbial Immunol.* 61, 463-473 (2017).

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