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Strep genomics

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Group AStreptococcus(GAS) infection by serotype M18 strains causes acute rheumatic fever (ARF) and can lead to pediatric heart disease. In the April 2 Proceedings of the National Academy of Sciences, James Smoot and colleagues at the National Institute of Allergy and Infectious Diseases report the genome sequence of a GAS strain (MGAS8232) isolated from a patient with ARF (*Proc Natl Acad Sci USA* 2002, **99:**4668-4673). They compared the 1.9 Mb genome with a closely related strain (the M1 serotype SF370 strain) and found 178 putative genes unique to MGAS8232. Several of these encode secreted proteins that may be important for host-GAS interactions. Microarray analysis of different serotype M18 strains revealed that much of the genetic variation was due to phage or phage-like sequence elements. Comparative GAS genomics should lead to greater understanding of ARF pathogenesis and potential therapeutic strategies.

References

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