Conscription of the host fibrinolytic system as a virulence determinant for *Streptococcus pyogenes*

The virulence determinants of Gram-positive streptococci are more complex than those of Gram-negative strains. For Gram-negative bacteria, lipopolysaccharide (LPS) is a primary virulence factor. In the case of the human pathogen, Gram-positive group *A-streptococcus pyogenes* (GAS) is one virulence factor in the development of a proteolytic surface of GAS cells and this aid in dissemination of the bacteria from epithelial cells of the skin and throat to deep tissues. For skin-tropic strains, this is accomplished by hijacking of the host fibrinolytic system by GAS. For this to occur, there must be GAS surface proteins that bind to the host proenzyme, plasminogen and then the plasminogen must be specifically activated and the proteolytic is under tight and rapid gene regulation since the proteolytic surface is only required at certain stages of the infection. This presentation will discuss these features for a virulent skin-tropic strain of GAS.

Biography
Francis J Castellino is the Kleiderer-Pezold Professor of Biochemistry and Director of the WM Keck Center for Transgene Research at the University of Notre Dame, USA. He has coauthored more than 400 peer reviewed manuscripts.

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