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Nanomedicine - New approaches in neutralizing viruses at the cellular level

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Abstract

First section: An antimicrobial catheter that employs specifically an antimicrobial/anti-pathogen coating that uses silane/carbon based antimicrobial nano particles in the effective destruction of pathogens including bacteria, viruses and fungi, where the antimicrobial is applied as a coating to the catheter to neutralize and prevent the growth of bacteria. The antimicrobial 3-(trimethoxysilyl)- propyldimethyloctadecyl ammonium chloride makes a covalent bond with the surface of the afore mentioned device in order to make a matrix of nano carbon spikes that rupture the pathogens by use of a positive charge that draws the pathogens to the carbon spike and ruptures the wall of the pathogen thus effectively destroying it. In addition, the catheter shall also be anti-thrombogenic due to the positive charge disrupting the initial charge interaction of the clotting cascade.

Second section: Multivalent catalytic molecular nano-particulate silver- a clinical review of cases and applications for mutating staph infections and malaria.

Biography

Leigh J. Mack has been in the nanomedicine field for over 7 years. He has worked as the lead developer in several nano particle applications. Two nanomedicine applications are currently in use in clinical environments around the world. He attended USAT Montserrat for MD and Ph.D. and is currently working on post graduate programme in nanotechnology at University of Oxford.