TREATMENT OF POLYBACTERIALS INFECTIONS

FIELD

[0001] The technology relates to the use of anti-bacterial antibodies or antigen-binding fragments thereof for the treatment and prevention of infections including polybacterial infections.

BACKGROUND

[0002] Opportunistic infections are infections that are more frequent and/or more severe as a result of a particularly suitable environment such as a weakened immune system. They frequently present in hospitalized and/or immunosuppressed patients. Often times, opportunistic infections are polymicrobial, i.e., involving multiple infectious agents. Two important opportunistic bacteria are *Staphylococcus aureus* and *Pseudomonas aeruginosa*.

[0003] *Staphylococcus aureus* (*S. aureus*) is a Gram-positive, facultatively aerobic, clump-forming cocci bacterium that commonly colonizes the nose and skin of healthy humans. Approximately 20-30% of the population is colonized with *S. aureus* at any given time. Mucosal and epidermal barriers (skin) normally protect against *S. aureus* infections, but opportunistic *S. aureus* infections can become serious, causing a variety of diseases or conditions, non-limiting examples of which include bacteremia, cellulitis, eyelid infections, food poisoning, joint infections, skin infections, scalded skin syndrome, toxic shock syndrome, pneumonia, osteomyelitis, endocarditis, meningitis, and abscess formation.

[0004] *Pseudomonas aeruginosa* (*P. aeruginosa*) is a Gram-negative bacterium that causes both acute and chronic infections. *P. aeruginosa* is a common cause of hospital-acquired infections in the Western world. It is a frequent causative agent of bacteremia in burn victims and immune compromised individuals. It is also the most common cause of nosocomial Gram-negative pneumonia, especially in mechanically ventilated patients, and is the most prevalent pathogen in the lungs of individuals with cystic fibrosis.

[0005] Infections with bacteria such as *S. aureus* and *P. aeruginosa* are associated with increased morbidity and mortality, and *S. aureus* and *P. aeruginosa* are commonly isolated from the same patient. In view of this, as well as the fact that multidrug