Monoclonal Antibodies Against Novel Targets in Antibiotic Resistance Bacteria (Ramot)

code: 2-2017-1103

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We developed a monoclonal antibody (mAb-B7) that has high potential to become a potent drug that would be used in preventing and treating infections caused by antibiotic-resistant pathogens such as EPEC, EHEC and others.

UNMET NEED

It is predicted that a failure to address the problem of antibiotic-resistant pathogens will result in the death of 10 million people annually worldwide, costing the world's economy more than $100 trillion cumulatively by the year 2050. To address this unmet need, we are developing a novel therapeutic drug against Multiple Drug Resistant (MDR) bacterial strains.

OUR SOLUTION

Instead of the classical antibiotics used so far in the clinic, we are focusing our efforts on a biological drug that should overcome the challenge of developing a new antibiotic.

OUR PRODUCT

We have isolated a monoclonal antibody (mAb-B7) that targets specifically food-borne pathogenic bacteria such as enteropathogenic E. coli (EPEC) that utilize the Type 3 Secretion System (T3SS) for their virulence. The T3SS is a major virulence factor in many bacterial pathogens in that it allows injection of virulence proteins into host cells that ultimately promote bacterial survival. We have developed a mAb targeting EspB, which is an essential component of the T3SS, in order to inhibit the ability of the bacteria to inject virulence proteins to the host cell through the T3SS, thus inhibiting bacterial survival.

PATENTS

Provisional patent was filed.

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