

### 3. Objective

The objective of the present study was to enhance the effect of SSD and Ciprofloxacin against the biofilm associated *P. aeruginosa* infection in different disease conditions. To achieve these objectives, two different nanoformulations were developed in combination with two different biofilm degrading enzymes to improve the antimicrobial activity against the various biofilms associated with *P. aeruginosa* infections. The objective was achieved under the two specific aims;

1. Development of Silver sulfadiazine loaded solid lipid nanoparticles and DNase-I enriched chitosan gel for the effective management of biofilm associated with wounds.
2. Development of the Alginate lyase immobilized chitosan nanoparticles of the ciprofloxacin to enhance the antimicrobial activity against mucoid *P. aeruginosa* biofilm associated with cystic fibrosis.