enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity penicillin binding protein (PBP) binder with an $IC_{50}$ value of 1 μg/ml or less to only one PBP.

In another general aspect, there is provided a use of a pharmaceutical composition according to the invention for the manufacture of a medicament for ~~method of~~ treating a bacterial infection ~~in a subject comprising the step of administering to the subject: (a) at least one antibacterial agent or a pharmaceutically acceptable derivative thereof, and (b) an enhancer compound or a pharmaceutically acceptable derivative thereof; wherein the enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity PBP binder~~.

In another general aspect, there is provided use of a pharmaceutical composition according to the invention for the manufacture of a medicament ~~a method~~ for increasing antibacterial effectiveness of an antibacterial agent ~~in a subject, said method comprising co-administering said antibacterial agent or a pharmaceutically acceptable derivative thereof, with an enhancer compound or a pharmaceutically acceptable derivative thereof; wherein the enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity PBP binder~~.

The details of one or more embodiments of the invention are set forth in the description below. Other features, objects and advantages of the invention will be apparent from the following description including claims.

## DETAILED DESCRIPTION OF THE INVENTION

Reference will now be made to the exemplary embodiments, and specific language will be used herein to describe the same. It should nevertheless be understood that no limitation of the scope of the invention is thereby intended. Alterations and further modifications of the inventive features illustrated herein, and additional applications of the principles of the invention as illustrated herein, which would occur to one skilled in the relevant art and having possession of this disclosure, are to be considered within the scope of the invention. It must be noted that, as used in this specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the content clearly dictates otherwise. All references including patents, patent applications, and literature cited in the

specification are expressly incorporated herein by reference in their entirety as if fully rewritten herein.

The term “antibacterial agent” as used herein refers to any substance, compound or a combination of substances or a combination compounds capable of: (i) inhibiting, reducing or

CLAIMS

1. A pharmaceutical composition comprising: (a) at least one antibacterial agent or a pharmaceutically acceptable derivative thereof, and (b) an enhancer compound or a pharmaceutically acceptable derivative thereof; wherein the enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity penicillin binding protein (PBP) binder with an $IC_{50}$ value of 1 μg/ml or less to only one PBP.

2. A ~~method of treating a bacterial infection in a subject comprising the step of administering to the subject an effective amount~~use of a pharmaceutical composition according to Claim 1 for the manufacture of a medicament for treating a bacterial infection.

~~3. A method of treating a bacterial infection in a subject comprising the step of administering to the subject an effective amount of: (a) at least one antibacterial agent or a pharmaceutically acceptable derivative thereof, and (b) an enhancer compound or a pharmaceutically acceptable derivative thereof; wherein the enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity PBP binder.~~

~~4~~3. A ~~A method~~use of a pharmaceutical composition according to Claim 1 for the manufacture of a medicament for increasing antibacterial effectiveness of an antibacterial agent~~ in a subject, said method comprising co-administering said antibacterial agent or a pharmaceutically acceptable derivative thereof, with an enhancer compound or a pharmaceutically acceptable derivative thereof; wherein the enhancer compound is: (i) beta-lactamase stable, and (ii) a selective and high affinity PBP binder~~.

~~5~~4. ~~A~~ The pharmaceutical composition according to Claim 1~~ or a method according to any of the Claims 2 to 4~~, wherein the antibacterial agent is selected from a group consisting of aminoglycosides, ansamycins, carbacephems, penems, carbapenems, cephalosporins, cephamycins, lincosamides, lipopeptides, macrolides, monobactams, nitrofurans, penicillins, polypeptides, quinolones, sulfonamides, tetracyclines, or oxazolidinone antibacterial agents.

~~6~~5. ~~A~~ The pharmaceutical composition according to Claim 1 ~~or a method according to any of the Claims 2 to 4~~, wherein the enhancer compound or a pharmaceutically acceptable derivative thereof, is present an amount from about 0.01 to 10 gm per gram of the antibacterial agent or a pharmaceutically acceptable derivative thereof.

~~7~~6. ~~A~~ The pharmaceutical composition according to Claim 1 ~~or a method according to any of the Claims 2 to 4~~, wherein the enhancer compound or a pharmaceutically acceptable derivative thereof, is capable of selectively binding to ~~one~~ an ~~of the~~ essential PBP~~s~~.

~~8~~7. ~~A~~ The pharmaceutical composition according to Claim 1 ~~or a method according to any of the Claims 2 to 4~~, wherein, the antibacterial agent or a pharmaceutically acceptable derivative thereof, and the enhancer compound or a pharmaceutically acceptable derivative thereof, are complementary PBP binding agents.

~~9~~8. ~~A~~ The pharmaceutical composition according to Claim 1 ~~or a method according to any of the Claims 2 to 4~~, wherein the enhancer compound or a pharmaceutically acceptable derivative thereof, and the antibacterial agent or a pharmaceutically acceptable derivative thereof, are present in the concentrations lower ~~than, or equal to, or higher~~ than ~~the corresponding~~their respective minimum inhibitory concentrations.

~~10~~9. ~~A~~ The pharmaceutical composition according to Claim 1 ~~or a method according to any of the Claims 2 to 4~~, wherein the antibacterial agent or a pharmaceutically acceptable derivative thereof, is present at its minimum filamentation concentration and ~~an~~ the enhancer compound or a pharmaceutically acceptable derivative thereof, is present at its minimum spheroplasting concentration.