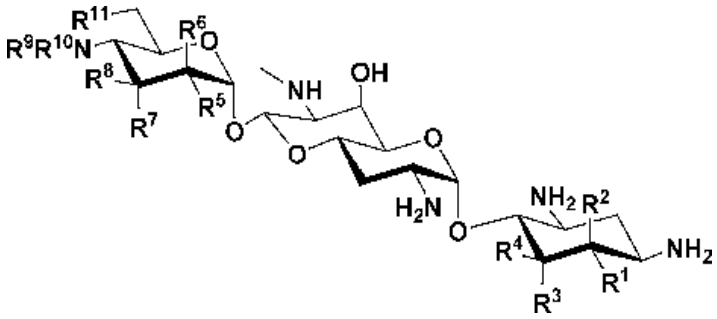
CLAIMS

1. A compound represented by a general formula (I) or a pharmaceutically acceptable salt or solvate thereof:

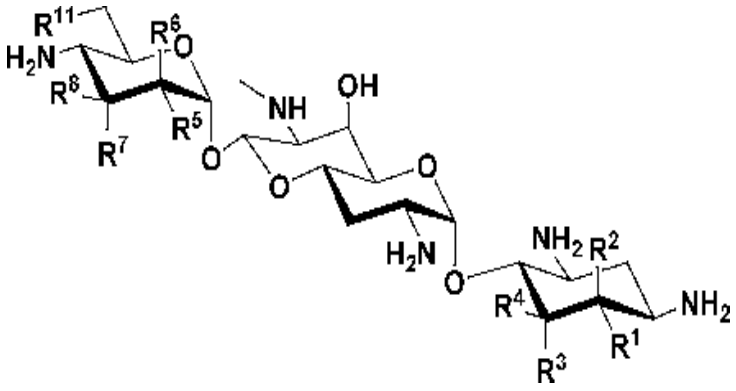
[Chem. 1]



(I)

Wherein,
R^1 is a hydrogen atom or a hydroxyl group,
R^2 is a hydrogen atom or an amino group,
R^3 is a hydrogen atom, a halogen atom, a hydroxyl group or an amino group,
R^4 is a hydrogen atom, a halogen atom or an amino group,
wherein R^1 and R^4 may form a double bond together,
R^5 is a hydrogen atom, a hydroxyl group or an amino group,
R^6 is a hydrogen atom, a hydroxyl group or an amino group,
R^7 is a hydrogen atom, a hydroxyl group or an amino group,
R^8 is a hydrogen atom, a hydroxyl group or an amino group,
R^9 and R^{10} are each independently a hydrogen atom, a C_{1-6} alkyl group, an amino-C_{1-6} alkyl group, a guanidino-C_{1-6} alkyl group, an amino-C_{3-7} cycloalkyl group, an amino-C_{3-7} cycloalkyl-C_{1-6} alkyl group, an amidino group, an azetidino group optionally substituted with a C_{1-6} alkyl group, a glycyl group, a sarcosyl group, an L- alanyl group, a D-alanyl group, an L-seryl group, a D-seryl group, a β-alanyl group, an L-isoseryl group or a D-isoseryl group; and
R^{11} is a hydrogen atom, a hydroxyl group or a fluorine atom,
except when
(i) R^1, R^4, R^5, R^8, and R^{11} are hydroxyl groups, R^2, R^3, R^6, R^7, R^9, and R^{10} are hydrogen atoms,
(ii) R^5, R^8, and R^{11} are hydroxyl groups, R^1, R^2, R^3, R^4, R^6, R^7, R^9, and R^{10} are hydrogen atoms,
(iii) R^1, R^5, R^8, and R^{11} are hydroxyl groups, R^2, R^3, R^4, R^6, R^7, R^9, and R^{10} are hydrogen atoms,
(iv) R^1, R^4, R^5, and R^8 are hydroxyl groups, R^2, R^3, R^6, R^7, R^9, R^{10}, and R^{11} are hydrogen atoms,
(v) R^1, R^4, R^5, R^8, and R^{11} are hydroxyl groups, R^2, R^3, R^6, and R^7 are hydrogen atoms, either one of R^9 or R^{10} is a hydrogen atom, the other is an ethyl group or a 2-aminoethyl group.

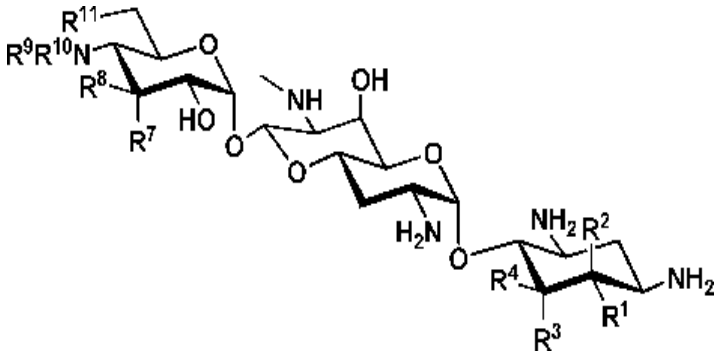
2. The compound according to Claim 1 represented by formula (I-1) or a pharmaceutically acceptable salt or solvate thereof:
[Chem. 2]



(I-1)

wherein,
R^1 is a hydrogen atom or a hydroxyl group,
R^2 is a hydrogen atom or an amino group,
R^3 is a hydrogen atom, a halogen atom, a hydroxyl group or an amino group,
R^4 is a hydrogen atom, a halogen atom or an amino group,
wherein R^1 and R^4 may form a double bond together,
R^5 is a hydrogen atom, a hydroxyl group or an amino group,
R^6 is a hydrogen atom, a hydroxyl group or an amino group,
R^7 is a hydrogen atom, a hydroxyl group or an amino group,
R^8 is a hydrogen atom, a hydroxyl group or an amino group; and
R^{11} is a hydrogen atom, a hydroxyl group or a fluorine atom,
except when
(i) R^5, R^8, and R^{11} are hydroxyl groups, R^1, R^2, R^3, R^4, R^6, and R^7 are hydrogen atoms,
(ii) R^1, R^5, R^8, and R^{11} are hydroxyl groups, R^2, R^3, R^4, R^6, and R^7 are hydrogen atoms,
(iii) R^1, R^4, R^5, and R^8 are hydroxyl groups, R^2, R^3, R^6, R^7, and R^{11} are hydrogen atoms.

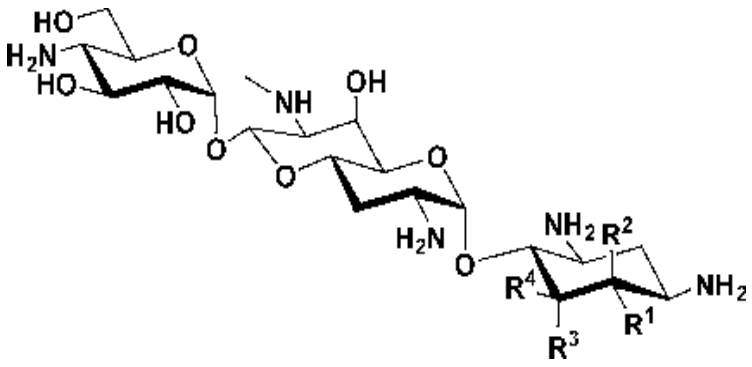
3. The compound according to Claim 1 represented by a general formula (I-2) or a pharmaceutically acceptable salt or solvate thereof:
[Chem. 3]



(I-2)

Wherein,
R^1 is a hydrogen atom or a hydroxyl group,
R^2 is a hydrogen atom or an amino group,
R^3 is a hydrogen atom, a halogen atom, a hydroxyl group or an amino group,
R^4 is a hydrogen atom, a halogen atom or an amino group,
wherein R^1 and R^4 may form a double bond together,
R^7 is a hydrogen atom, a hydroxyl group or an amino group,
R^8 is a hydrogen atom, a hydroxyl group or an amino group,
R^9 is a hydrogen atom, a $C_{1\text{-}6}$ alkyl group or an amino-$C_{1\text{-}6}$ alkyl group,
R^{10} is a $C_{1\text{-}6}$ alkyl group, an amino-$C_{1\text{-}6}$ alkyl group, a guanidino-$C_{1\text{-}6}$ alkyl group, an amino-$C_{3\text{-}7}$ cycloalkyl group, an amino-$C_{3\text{-}7}$ cycloalkyl-$C_{1\text{-}6}$ alkyl group, an amidino group, an azetidino group optionally substituted with a $C_{1\text{-}6}$ alkyl group, a glycyl group, a sarcosyl group, an L- alanyl group, a D-alanyl group, an L-seryl group, a D-seryl group, a β-alanyl group, an L-isoseryl group or a D-isoseryl group; and
R^{11} is a hydrogen atom or a hydroxyl group.

4. The compound according to Claim 1 represented by a general formula (I-4) or a pharmaceutically acceptable salt or solvate thereof:
[Chem. 5]



(I-4)

Wherein,
R^1 is a hydrogen atom or a hydroxyl group,
R^2 is a hydrogen atom or an amino group,
R^3 is a hydrogen atom, a halogen atom, a hydroxyl group or an amino

group,
R^4 is a hydrogen atom, a halogen atom or an amino group; and
wherein R^1 and R^4 may form a double bond together,
except when
(i) R^1, R^2, R^3, and R^4 are hydrogen atoms,
(ii) R^1 is a hydroxyl group, and R^2, R^3, and R^4 are hydrogen atoms.

5. A compound according to claim 1 or a pharmaceutically acceptable salt or solvate thereof, wherein the compound is:
5-epiapramycin,
5-deoxy-5-epi-5-fluoroapramycin,
6-deoxy-5-epiapramycin,
5,6-dideoxy-5-fluoroapramycin,
5-amino-5-deoxy-5-epiapramycin,
5-amino-5-deoxyapramycin,
6-amino-5,6-dideoxy-5,6-diepi-5-fluoroapramycin,
5-amino-5,6-dideoxyapramycin,
5,6"-dideoxyapramycin,
5,3"-dideoxyapramycin,
3"-deoxy-5-epiapramycin,
5,3"-dideoxy-5-epi-5-fluoroapramycin,
6,3"-dideoxy-5-epiapramycin,
5,6,3"-trideoxyapramycin,
5-amino-5,3"-dideoxy-5-epiapramycin,
5,2"-dideoxy-5,3"-diepi-5-fluoroapramycin,
5,3"-diepiapramycin,
6,6"-dideoxy-5-epiapramycin,
5-eno-5,6,6"-trideoxyapramycin,
5,6,6"-trideoxyapramycin,
5-deoxy-4"-N-methylapramycin,
4"-N-(2-aminoethyl)-5-deoxyapramycin,
4"-N-(3-aminopropyl)-5-deoxyapramycin,
5-deoxy-4"-N-(1,3-diaminopropan-2-yl)apramycin,
4"-deamino-5-deoxy-4"-guanidinoapramycin,
5-epi-4"-N-methylapramycin,
4"-N-(2-aminoethyl)-5-epiapramycin,
4"-N-(3-aminopropyl)-5-epiapramycin,
4"-N-(1,3-diaminopropan-2-yl)-5-epiapramycin,
4"-deamino-5-epi-4"-guanidinoapramycin,
4"-deamino-5-deoxy-5-epi-5-fluoro-4"-guanidinoapramycin,
5,6-dideoxy-4"-N-methylapramycin,
4"-N-(2-aminoethyl)-5,6-dideoxyapramycin,
4"-N-(3-aminopropyl)-5,6-dideoxyapramycin,
4"-N-(1,3-diaminopropan-2-yl)-5,6-dideoxyapramycin,
4"-deamino-5,6-dideoxy-4"-guanidinoapramycin,
6-deoxy-5-epi-4"-N-methylapramycin,
4"-N-(2-aminoethyl)-6-deoxy-5-epiapramycin,

4"-N-(3-aminopropyl)-6-deoxy-5-epiapramycin,
4"-deamino-6-deoxy-5-epi-4"-guanidinoapramycin,
4"-N-(1,3-diaminopropan-2-yl)-5,6"-dideoxyapramycin,
4"-deamino-5,6"-dideoxy-4"-guanidinoapramycin,
4"-deamino-5,3"-dideoxy-4"-guanidinoapramycin,
5-epi-4"-N-glycylapramycin,
5-epi-4"-N-sarcosylapramycin,
4"-N-(L-alanyl)-5-epiapramycin,
5-epi-4"-N-(L-seryl)apramycin,
4"-N-(β-alanyl)-5-epiapramycin,
5-epi-4"-N-(L-isoseryl)apramycin,
5-epi-4"-N-(D-isoseryl)apramycin,
6-deoxy-5-epi-4"-N-glycylapramycin,
6-deoxy-5-epi-4"-N-sarcosylapramycin,
4"-N-(β-alanyl)-6-deoxy-5-epiapramycin,
6-deoxy-5-epi-4"-N-(L-isoseryl)apramycin,
5-amino-4"-deamino-5-deoxy-5-epi-4"-guanidinoapramycin,
5-amino-5-deoxy-5-epi-4"-N-glycylapramycin,
5-amino-5-deoxy-5-epi-4"-N-(L-isoseryl)apramycin,
4"-deamino-3"-deoxy-5-epi-4"-guanidinoapramycin,
4"-deamino-5,3"-dideoxy-5-epi-5-fluoro-4"-guanidinoapramycin
or
2"-deoxy-5,3"-diepiapramycin.

6. A pharmaceutical composition comprising the compound according to any one of Claims 1 to 5 or a pharmaceutically acceptable salt or solvate thereof.

7. The pharmaceutical composition according to Claim 6 when used in the prevention or treatment of a bacterial infectious disease.

8. The pharmaceutical composition according to Claim 6 or 7, wherein the bacterial infectious disease is sepsis, infectious endocarditis, dermatological infections, surgical site infections, orthopedic surgical site infections, respiratory infections, urinary tract infections, enteral infections, peritonitis, meningitis, ophthalmological infections or otolaryngological infections.

9. The pharmaceutical composition according to Claim 7 or 8, wherein the bacterial infectious disease is caused by methicillin-resistant *Staphylococcus aureus* (MRSA), *Staphylococcus aureus*, *Escherichia coli*, *Klebsiella pneumoniae* or *Pseudomonas aeruginosa*.

10. The compound according to any one of Claims 1 to 5 or a pharmaceutically acceptable salt or solvate thereof when used in the prevention or treatment of a bacterial infectious disease.

11. The compound according to Claim 10, wherein the bacterial infectious disease is sepsis, infectious endocarditis, dermatological infections, surgical site infections, orthopedic surgical site infections, respiratory infections, urinary tract infections, enteral infections, peritonitis, meningitis, ophthalmological infections or otolaryngological infections.

12. The compound according to Claim 10 or 11, wherein the bacterial infectious disease is caused by methicillin-resistant *Staphylococcus aureus* (MRSA*), Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae* or *Pseudomonas aeruginosa*.

13. Use of the compound according to any one of Claims 1 to 5 or a pharmaceutically acceptable salt or solvate thereof, or a pharmaceutical composition according to claim 6, for the manufacture of a medicament for the prevention or treatment of a bacterial infectious disease.

14. The use according to Claim 13, wherein the bacterial infectious disease is sepsis, infectious endocarditis, dermatological infections, surgical site infections, orthopedic surgical site infections, respiratory infections, urinary tract infections, enteral infections, peritonitis, meningitis, ophthalmological infections or otolaryngological infections.

15. The use according to Claims 13 or 14, wherein the bacterial infectious disease is caused by methicillin-resistant *Staphylococcus aureus* (MRSA), *Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae* or *Pseudomonas aeruginosa*.

16. The use according to claim 13, wherein the bacterial infectious disease is in an animal.

17. The use according to claim 16, wherein the animal is a human.

18. The use according to claim 16 or 17, wherein the bacterial infectious disease is sepsis, infectious endocarditis, dermatological infections, surgical site infections, orthopedic surgical site infections, respiratory infections, urinary tract infections, enteral infections, peritonitis, meningitis, ophthalmological infections or otolaryngological infections.

19. The use according to any one of claims 16 to 18, wherein the bacterial infectious disease is caused by methicillin-resistant *Staphylococcus aureus* (MRSA), *Staphylococcus aureus, Escherichia coli, Klebsiella pneumoniae* or *Pseudomonas aeruginosa*.

20. An antimicrobial agent comprising the compound of any one of Claims 1 to 5 or a pharmaceutically acceptable salt or solvate thereof, or a pharmaceutical composition according to claim 6.