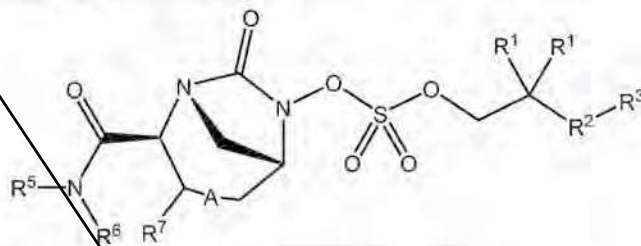


CLAIMS

What is claimed is:

A compound of Formula (I):



(I)

or a pharmaceutically acceptable salt thereof, wherein,

each R¹ is independently selected from C₁₋₆ alkyl, or each R¹ and the geminal carbon atom to which they are bonded forms a C₃₋₆ cycloalkyl ring, a C₃₋₆ heterocycloalkyl ring, a substituted C₃₋₆ cycloalkyl ring, or a substituted C₃₋₆ heterocycloalkyl ring;

R² is selected from a single bond, C₁₋₆ alkanediyl, C₁₋₆ heteroalkanediyl, C₅₋₆ cycloalkanediyl, C₅₋₆ heterocycloalkanediyl, C₆ arenediyl, C₅₋₆ heteroarenediyl, substituted C₁₋₆ alkanediyl, substituted C₁₋₆ heteroalkanediyl, substituted C₅₋₆ cycloalkanediyl, substituted C₅₋₆ heterocycloalkanediyl, substituted C₆ arenediyl, and substituted C₅₋₆ heteroarenediyl;

R³ is selected from C₁₋₆ alkyl, -O-C(O)-R⁴, -S-C(O)-R⁴, -NH-C(O)-R⁴, -O-C(O)-O-R⁴, -S-C(O)-O-R⁴, -NH-C(O)-O-R⁴, -C(O)-O-R⁴, -C(O)-S-R⁴, -C(O)-NH-R⁴, -O-C(O)-O-R⁴, -O-C(O)-S-R⁴, -O-C(O)-NH-R⁴, -S-S-R⁴, -S-R⁴, -NH-R⁴, -CH(-NH₂)(-R⁴), C₅₋₆ heterocycloalkyl, C₅₋₆ heteroaryl, substituted C₅₋₆ cycloalkyl, substituted C₅₋₆ heterocycloalkyl, substituted C₅₋₆ aryl, substituted C₅₋₆ heteroaryl, and -CH=C(R⁴)₂, wherein,

R⁴ is selected from hydrogen, C₁₋₈ alkyl, C₁₋₈ heteroalkyl, C₅₋₈ cycloalkyl, C₅₋₈ heterocycloalkyl, C₅₋₁₀ cycloalkylalkyl, C₅₋₁₀ heterocycloalkylalkyl, C₆₋₈ aryl, C₅₋₈ heteroaryl, C₇₋₁₀ arylalkyl, C₅₋₁₀ heteroarylalkyl, substituted C₁₋₈ alkyl, substituted C₁₋₈ heteroalkyl, substituted C₅₋₈ cycloalkyl, substituted C₅₋₈ heterocycloalkyl, substituted C₅₋₁₀ cycloalkylalkyl, substituted C₅₋₁₀ heterocycloalkylalkyl, substituted C₆₋₈ aryl, substituted C₅₋₈ heteroaryl, substituted C₇₋₁₀ arylalkyl, and substituted C₅₋₁₀ heteroarylalkyl;

R⁵ is selected from hydrogen, C₁₋₆ alkyl, C₅₋₈ cycloalkyl, C₆₋₁₂ cycloalkylalkyl, C₂₋₆ heteroalkyl, C₅₋₈ heterocycloalkyl, C₆₋₁₂ heterocycloalkylalkyl, substituted C₁₋₆ alkyl, substituted C₅₋₈ cycloalkyl, substituted C₆₋₁₂ cycloalkylalkyl, substituted C₂₋₆ heteroalkyl, substituted C₅₋₈ heterocycloalkyl, and substituted C₆₋₁₂ heterocycloalkylalkyl;

R⁶ is selected from hydrogen, C₁₋₆ alkyl, C₅₋₈ cycloalkyl, C₆₋₁₂ cycloalkylalkyl, C₂₋₆ heteroalkyl, C₅₋₈ heterocycloalkyl, C₆₋₁₂ heterocycloalkylalkyl, substituted C₁₋₆ alkyl, substituted C₅₋₈ cycloalkyl, substituted C₆₋₁₂ cycloalkylalkyl, substituted C₂₋₆ heteroalkyl, substituted C₅₋₈ heterocycloalkyl, and substituted C₆₋₁₂ heterocycloalkylalkyl; and

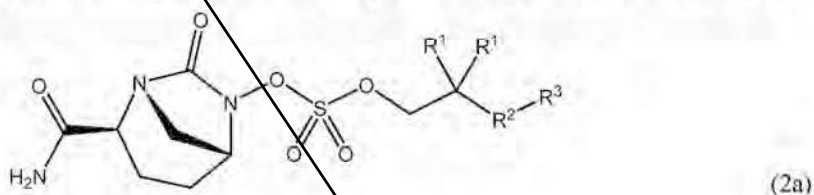
A is a single bond (–) and R^7 is hydrogen, or A is a double bond (=) and R^7 is C_{1-3} alkyl.

2. The compound of claim 1, wherein each R^1 is independently C_{1-6} alkyl, or each R^1 together with the geminal carbon atom to which they are bonded form a C_{3-6} cycloalkyl ring, a substituted C_{3-6} cycloalkyl ring, a C_{3-6} heterocycloalkyl ring, or a substituted C_{3-6} heterocycloalkyl ring.

3. The compound of claim 1, wherein R^2 is independently selected from a single bond, C_{1-2} alkanediyl, and substituted C_{1-2} alkanediyl.

4. The compound of claim 1, wherein R^3 is $-C(O)-O-R^4$, wherein R^4 is selected from C_{1-8} alkyl, C_{1-8} heteroalkyl, C_{5-7} cycloalkyl, C_{5-7} heterocycloalkyl, C_6 aryl, C_{7-9} arylalkyl, substituted C_{1-8} alkyl, substituted C_{1-8} heteroalkyl, substituted C_{5-6} cycloalkyl, substituted C_{5-6} heterocycloalkyl, substituted C_6 aryl, and C_{7-9} arylalkyl.

5. The compound of claim 1, wherein the compound has the structure of Formula (2a):



or a pharmaceutically acceptable salt thereof.

6. The compound of claim 5, wherein, each R^1 is independently selected from C_{1-3} alkyl, or each R^1 together with the geminal carbon atom to which they are bonded form a C_{3-6} cycloalkyl ring, a substituted C_{3-6} cycloalkyl ring, a C_{3-6} heterocycloalkyl ring, or a substituted C_{3-6} heterocycloalkyl ring;

R^2 is a single bond;

R^3 is $-C(O)-O-R^4$; and

R^4 is selected from C_{1-8} alkyl, C_{1-8} heteroalkyl, C_{7-9} arylalkyl, C_{5-7} heterocycloalkyl, substituted C_{1-8} alkyl, substituted C_{1-8} heteroalkyl, substituted C_{7-9} arylalkyl, and substituted C_{5-7} heterocycloalkyl.

7. The compound of claim 5, wherein the compound is selected from:

3-((((2S,5R)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl benzoate (2);

ethyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (3);

benzyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (4);

4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl benzoate (6);

4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl propionate (7);

benzyl 4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl adipate (8);

6-(4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutoxy)-6-oxohexanoic acid (9);

methyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (10);

isopropyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (11);

hexyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (12);

heptyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (13);

tert-butyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (14);

2-methoxyethyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (15);

oxetan-3-yl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (16);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclohexanecarboxylate (17);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclopropanecarboxylate (18);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclobutanecarboxylate (19);

(2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl 1*H*-imidazole-1-sulfonate (34);

ethyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (35);

hexyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (36);

heptyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (37);

2-methoxyethyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (38);

5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,4,4-tetramethylpentyl propionate (39);

5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,4,4-tetramethylpentyl benzoate (40);

5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,4,4-tetramethylpentyl 2,6-dimethylbenzoate (41);

(2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl ((3-methyl-2-oxotetrahydrofuran-3-yl)methyl) sulfate (42);

3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl pivalate (43);

3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl 3-chloro-2,6-dimethoxybenzoate (44);

4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,3,3-tetramethylbutyl 2,6-dimethylbenzoate (45);

4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,3,3-tetramethylbutyl benzoate (46);

4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,3,3-tetramethylbutyl propionate (47);

(2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl ((3-methyl-2-oxotetrahydro-2*H*-pyran-3-yl)methyl) sulfate (48);

2-(3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl)phenyl acetate (49);

2-(3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl)phenyl pivalate (50);

S-(4-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl) ethanethioate (51);

S-(5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentyl) ethanethioate (52);

S-(3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl) ethanethioate (53);

3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl 2,6-dimethylbenzoate (54);

3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl adamantane-1-carboxylate (55);

diethyl 2-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)-2-methylmalonate (56);

propyl 3-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (57);

butyl 3-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (58);

(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl 3-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (59);

4-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl pivalate (60);

ethyl 2-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)-2-ethylbutanoate (61);

4-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl 2,6-dimethylbenzoate (62);

4-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl adamantane-1-carboxylate (63);

4-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-3,3-dimethylbutyl 2,6-dimethoxybenzoate (64);

5-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentyl benzoate (65);

5-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentyl 2,6-dimethoxybenzoate (66);

5-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentyl 2,6-dimethylbenzoate (67);

5-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentyl 2-methylbenzoate (68);

4-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,3,3-tetramethylbutyl 3-chloro-2,6-dimethoxybenzoate (69);

2-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)-2-methylpropane-1,3-diyl dibenzoate (70);

2-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)-2-methylpropane-1,3-diyl diacetate (71);

5-((((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2,4,4-tetramethylpentyl 2,6-dimethoxybenzoate (72);

ethyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylbutanoate (73);

(2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl ((3,5,5-trimethyl-2-oxotetrahydrofuran-3-yl)methyl) sulfate (74);

a pharmaceutically acceptable salt of any of the foregoing; and

a combination of any of the foregoing.

8. The compound of claim 5, wherein the compound is selected from:

ethyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (3);

benzyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (4);

methyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (10);

isopropyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (11);

hexyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (12);

heptyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (13);

tert-butyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (14);

2-methoxyethyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (15);

oxetan-3-yl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (16);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclohexanecarboxylate (17);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclopropanecarboxylate (18);

ethyl 1-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)methyl)cyclobutanecarboxylate (19);

hexyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (36);

heptyl 5-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-4,4-dimethylpentanoate (37);

(2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl ((3-methyl-2-oxotetrahydrofuran-3-yl)methyl) sulfate (42);
S-(3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropyl) ethanethioate (53);
 propyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (57);
 butyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (58);
 (5-methyl-2-oxo-1,3-dioxol-4-yl)methyl 3-((((2*S*,5*R*)-2-carbamoyl-7-oxo-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)-2,2-dimethylpropanoate (59);
 a pharmaceutically acceptable salt of any of the foregoing; and
 a combination of any of the foregoing.

9. The compound of claim 5, wherein,
 each R¹ is independently selected from C₁₋₃ alkyl, or each R¹ together with the carbon atom to which they are bonded form a C₃₋₆ cycloalkyl ring;
 R² is selected from single bond, methane-diyl, and ethane-diyl; and
 R³ is selected from -C(O)-O-R⁴ and -S-C(O)-R⁴, wherein R⁴ is selected from C₁₋₁₀ alkyl, C₁₋₁₀ heteroalkyl, C₅₋₁₀ arylalkyl, C₃₋₆ heterocycloalkyl, and substituted C₄₋₁₀ heterocycloalkylalkyl.

10. The compound of claim 5, wherein,
 each R¹ is independently selected from C₁₋₃ alkyl, or each R¹ together with the carbon atom to which they are bonded form a C₃₋₆ cycloalkyl ring;
 R² is a single bond; and
 R³ is -C(O)-O-R⁴, where R⁴ is selected from C₁₋₁₀ alkyl, C₁₋₁₀ heteroalkyl, C₅₋₁₀ arylalkyl, C₃₋₆ heterocycloalkyl, and substituted C₄₋₁₀ heterocycloalkylalkyl.

11. The compound of claim 5, wherein,
 each R¹ is independently selected from C₁₋₃ alkyl, or each R¹ together with the carbon atom to which they are bonded form a C₃₋₆ cycloalkyl ring;
 R² is -(CH₂)₂-; and
 R³ is -C(O)-O-R⁴ wherein R⁴ is selected from C₁₋₁₀ alkyl, C₁₋₁₀ heteroalkyl, C₅₋₁₀ arylalkyl, C₃₋₆ heterocycloalkyl, and substituted C₄₋₁₀ heterocycloalkylalkyl.

12. The compound of claim 5, wherein,
 each R¹ is selected from C₁₋₃ alkyl, or each R¹ together with the carbon atom to which they are bonded form a C₃₋₆ cycloalkyl ring;

R^2 is $-\text{CH}_2-$; and

R^3 is $-\text{S}-\text{C}(\text{O})-\text{R}^4$, wherein R^4 is selected from C_{1-10} alkyl, C_{1-10} heteroalkyl, C_{5-10} arylalkyl, C_{3-6} heterocycloalkyl, substituted C_{4-10} heterocycloalkylalkyl.

13. The compound of claim 5, wherein,
each R^1 together with the carbon atom to which they are bonded form a C_{3-6} cycloalkyl ring, a C_{3-6} heterocycloalkyl ring, a C_{3-6} cycloalkyl ring, or a C_{3-6} heterocycloalkyl ring;

R^2 is a single bond; and

R^3 is C_{1-3} alkyl.

14. The compound of claim 5, wherein,
each R^1 is independently selected from C_{1-3} alkyl;
 R^2 is selected from a single bond and methanediyl; and
 R^3 is selected from $-\text{O}-\text{C}(\text{O})-\text{R}^4$ and $-\text{C}(\text{O})-\text{O}-\text{R}^4$, wherein R^4 is selected from C_{1-10} alkyl and substituted phenyl.

15. The compound of claim 5, wherein,
each R^1 is independently selected from C_{1-3} alkyl;
 R^2 is a single bond;
 R^3 is $-\text{CH}=\text{C}(\text{R}^4)_2$, wherein each R^4 is $-\text{C}(\text{O})-\text{O}-\text{R}^8$, or each R^4 together with the carbon atom to which they are bonded form a substituted heterocyclohexyl ring; and
each R^8 is C_{1-4} alkyl.

16. The compound of claim 5, wherein,
each R^1 is independently selected from C_{1-3} alkyl;
 R^2 is selected from a single bond and methanediyl; and
 R^3 is substituted phenyl, wherein the one or more substituents is independently selected from $-\text{CH}_2-\text{O}-\text{C}(\text{O})-\text{R}^4$ and $-\text{O}-\text{C}(\text{O})-\text{R}^4$, wherein R^4 is selected from C_{1-10} alkyl and phenyl.

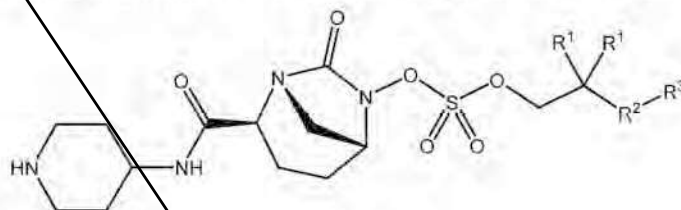
17. The compound of claim 5, wherein,
each R^1 is independently selected from C_{1-3} alkyl;
 R^2 is selected from $-\text{C}(\text{R}^8)_2-$ and $-\text{CH}_2-\text{C}(\text{R}^8)_2-$, wherein each R^8 is independently selected from C_{1-3} alkyl; and
 R^3 is selected from $-\text{C}(\text{O})-\text{O}-\text{R}^4$ and $-\text{O}-\text{C}(\text{O})-\text{R}^4$, wherein R^4 is selected from C_{1-10} alkyl, C_{1-10} heteroalkyl, substituted C_{1-10} alkyl, substituted C_{1-10} heteroalkyl, and 4(yl-methyl)-5-methyl-1,3-dioxol-2-one,

18. The compound of claim 5, wherein,
each R¹ together with the carbon atom to which they are bonded form a substituted C₅₋₆ heterocyclic ring;

R² is a single bond; and

R³ is C₁₋₃ alkyl.

19. The compound of claim 1, wherein the compound has the structure of Formula (4):



(4)

or a pharmaceutically acceptable salt thereof.

20. The compound of claim 19, wherein,
each R¹ is independently selected from C₁₋₃ alkyl, or each R¹ together with the carbon atom to which they are bonded form a C₃₋₆ cycloalkyl ring;

R² is a single bond; and

R³ is -C(O)-O-R⁴, wherein R⁴ is selected from C₁₋₁₀ alkyl, C₁₋₁₀ heteroalkyl, C₅₋₁₀ arylalkyl, C₃₋₆ heterocycloalkyl, and substituted C₄₋₁₀ heterocycloalkylalkyl.

21. The compound of claim 19, wherein the compound is selected from:

ethyl 2,2-dimethyl-3-((((2*S*,5*R*)-7-oxo-2-(piperidin-4-ylcarbamoyl)-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)propanoate (20);

2-methoxyethyl 2,2-dimethyl-3-((((2*S*,5*R*)-7-oxo-2-(piperidin-4-ylcarbamoyl)-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)propanoate (21);

4-((2*S*,5*R*)-6-(((3-(hexyloxy)-2,2-dimethyl-3-oxopropoxy)sulfonyl)oxy)-7-oxo-1,6-diazabicyclo[3.2.1]octane-2-carboxamido)piperidin-1-ium 2,2,2-trifluoroacetate (22);

4-((2*S*,5*R*)-6-(((3-(heptyloxy)-2,2-dimethyl-3-oxopropoxy)sulfonyl)oxy)-7-oxo-1,6-diazabicyclo[3.2.1]octane-2-carboxamido)piperidin-1-ium 2,2,2-trifluoroacetate (23);

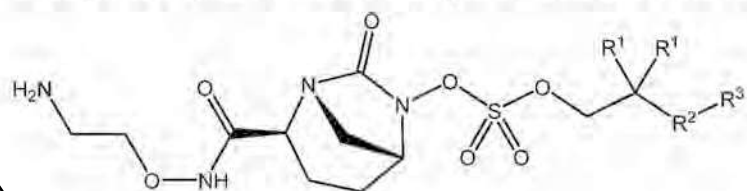
4-((2*S*,5*R*)-6-(((1-(ethoxycarbonyl)cyclohexyl)methoxy)sulfonyl)oxy)-7-oxo-1,6-diazabicyclo[3.2.1]octane-2-carboxamido)piperidin-1-ium 2,2,2-trifluoroacetate (24);

(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl 2,2-dimethyl-3-((((2*S*,5*R*)-7-oxo-2-(piperidin-4-ylcarbamoyl)-1,6-diazabicyclo[3.2.1]octan-6-yl)oxy)sulfonyl)oxy)propanoate (25);

a pharmaceutically acceptable salt of any of the foregoing; and

a combination of any of the foregoing.

22. The compound of claim 1, wherein the compound has the structure of Formula (5):



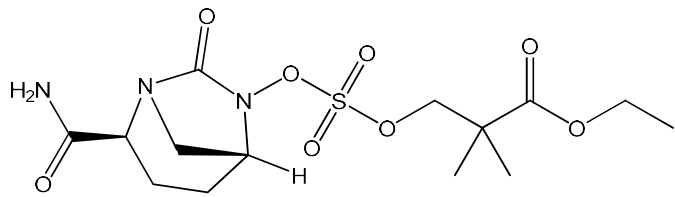
(5)

or a pharmaceutically acceptable salt thereof

23. A pharmaceutical composition comprising the compound of claim 1 and a pharmaceutically acceptable vehicle.
24. The pharmaceutical composition of claim 23, further comprising an antibiotic.
25. The pharmaceutical composition of claim 24, wherein the antibiotic comprises a β -lactam antibiotic.
26. The pharmaceutical composition of claim 23, wherein the pharmaceutical composition comprises an oral dosage formulation.
27. The pharmaceutical composition of claim 23, wherein the pharmaceutical composition comprises an oral dosage form.
28. A method of treating a bacterial infection in a patient comprising administering to a patient in need of such treatment a therapeutically effective amount of the compound of claim 1 or a pharmaceutically acceptable salt thereof.
29. The method of claim 28, wherein administering comprises orally administering.
30. The method of claim 28, further comprising administering to the patient a therapeutically effective amount of a β -lactam antibiotic.

CLAIMS

1. A compound having the Formula:



or a pharmaceutically acceptable salt thereof.

2. A pharmaceutical composition comprising the compound of claim 1, or a pharmaceutically acceptable salt thereof, and a pharmaceutically acceptable vehicle.
3. The pharmaceutical composition of claim 2, further comprising an antibiotic.
4. The pharmaceutical composition of claim 3, wherein the antibiotic comprises a β -lactam antibiotic.
5. The pharmaceutical composition of claim 2, wherein the pharmaceutical composition comprises an oral dosage formulation.
6. The pharmaceutical composition of claim 2, wherein the pharmaceutical composition comprises an oral dosage form.
7. Use of the compound of claim 1, or a pharmaceutically acceptable salt thereof, in the manufacture of a medicament for the treatment of a bacterial infection.
8. The use of claim 7, wherein the medicament is an oral formulation.
9. The use of claim 7, wherein the medicament is for coadministration with a therapeutically effective amount of a β -lactam antibiotic.