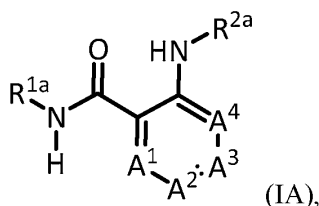


WHAT IS CLAIMED IS:

1. A method of treating or preventing a condition associated with the alteration of the activity of galactocerebrosidase in a patient, comprising administering to the patient in need thereof an effective amount of a compound of formula (IA):



or a pharmaceutically acceptable salt or solvate thereof, wherein

A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and C(R^{3a});

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

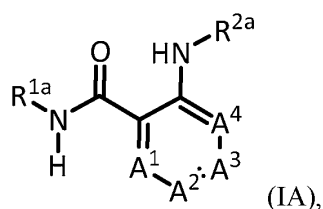
R^{2a} is selected from the group consisting of -C₁₋₄ alkyl, -C(=O)R^a, -C(=O)NHR^a, -S(=O)₂R^a, -C₁₋₄ alkyl-C(=O)R^a, -C₁₋₄ alkyl-C(=O)NHR^a, -C₁₋₄ alkyl-C(=O)N(R^a)₂, -C₁₋₄ alkyl-S(=O)₂R^a, -C₁₋₄ alkyl-S(=O)₂-N(R^a)₂, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl,

alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C(=O)Ra^a, -ORb^a, -SRb^a, -N(Rb^a)₂, (=O), -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

Ra^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -ORb^a, -SRb^a, -N(Rb^a)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

each Rb^a is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

2. A method of treating or preventing a lysosomal storage disease or an α -synucleinopathy, comprising administering to a patient in need thereof an effective amount of a compound of formula (IA):



or a pharmaceutically acceptable salt or solvate thereof, wherein

A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and $C(R^{3a})$;

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

5 R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

15 R^{2a} is selected from the group consisting of -C₁₋₄ alkyl, -C(=O)Ra^a, -C(=O)NHRa^a, -S(=O)₂Ra^a, -C₁₋₄ alkyl-C(=O)Ra^a, -C₁₋₄ alkyl-C(=O)NHRa^a, -C₁₋₄ alkyl-C(=O)N(Ra^a)₂, -C₁₋₄ alkyl-S(=O)₂Ra^a, -C₁₋₄ alkyl-S(=O)₂-N(Ra^a)₂, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C(=O)Ra^a, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

30 Ra^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl,

cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

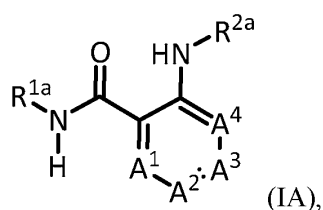
each R^b is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

3. The method of claim 2, wherein a lysosomal storage disease is treated or prevented.

4. The method of claims 2 or 3, wherein the lysosomal storage disease is Krabbe's disease.

5. The method of claim 2, wherein an α -synucleinopathy is treated or prevented.

6. A method of treating or preventing a disease or disorder, comprising administering to a patient in need thereof an effective amount of a compound of formula (IA):



or a pharmaceutically acceptable salt or solvate thereof, wherein

A¹, A², A³, and A⁴ are each independently selected from the group consisting of N, CH and C(R^{3a});

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl,

and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b,
 5 -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

10 R^{2a} is selected from the group consisting of -C₁₋₄ alkyl, -C(=O)R^a, -C(=O)NHR^a, -S(=O)₂R^a, -C₁₋₄ alkyl-C(=O)R^a, -C₁₋₄ alkyl-C(=O)NHR^a, -C₁₋₄ alkyl-C(=O)N(R^a)₂, -C₁₋₄ alkyl-S(=O)₂R^a, -C₁₋₄ alkyl-S(=O)₂-N(R^a)₂, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C(=O)R^a, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

20 R^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b,
 25 -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl,
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alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

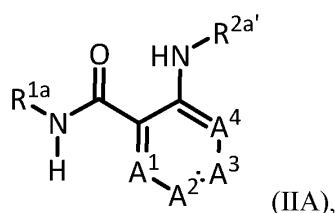
each Rb^a is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms,

wherein said disease or disorder is selected from the group consisting of Krabbe's disease, demyelinating disorders, galactosylsphingosine related disorders, globoid cell leukodystrophy, multiple sclerosis (MS), Parkinson's disease, peripheral neuropathy, progressive multiple sclerosis, pulmonary artery enlargement in COPD, open angle glaucoma, Lewy body dementia, and multiple system atrophy (MSA).

7. The method of any one of claims 1-6, wherein A¹, A², A³, and A⁴ are CH.
8. The method of any one of claims 1-6, wherein one of A¹, A², A³, and A⁴ is C(R^{3a}) and the ones not C(R^{3a}) are CH.
9. The method of any one of claims 1-6, wherein two of A¹, A², A³, and A⁴ is C(R^{3a}) and the ones not C(R^{3a}) are CH.
10. The method of any one of claims 1-6, wherein A¹ is N and A², A³, and A⁴ are each independently selected from the group consisting of CH and C(R^{3a}).
11. The method of any one of claims 1-6, wherein A² is N and A¹, A³, and A⁴ are each independently selected from the group consisting of CH and C(R^{3a}).
12. The method of any one of claims 1-6, wherein A³ is N and A¹, A², and A⁴ are each independently selected from the group consisting of CH and C(R^{3a}).
13. The method of any one of claims 1-6, wherein A⁴ is N and A¹, A², and A³ are each independently selected from the group consisting of CH and C(R^{3a}).
14. The method of any one of claims 1-6, wherein two of A¹, A², A³, and A⁴ are N, and those that are not N are each independently selected from the group consisting of CH and C(R^{3a}).

15. The method of any one of claims 1-6, wherein three of A^1 , A^2 , A^3 , and A^4 are N, and the one not N is selected from the group consisting of CH and $C(R^{3a})$.

5 16. The method of any one of claims 1-6, wherein the compound of formula (IA) is a compound of formula (IIA):



or a pharmaceutically acceptable salt or solvate thereof, wherein

10 A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and $C(R^{3a})$, provided that no more than one of A^1 , A^2 , A^3 , or A^4 is N;

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

15 R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydrox, -CN, -OR^b, -SR^b,
20 -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

25 $R^{2a'}$ is selected from the group consisting of -C(=O)R^{a'}, -S(=O)₂R^{a'}, -C₁₋₄ alkyl-C(=O)NHR^{a'}, -C₁₋₄ alkyl-C(=O)N(R^{a'})₂, -C₁₋₄ alkyl-S(=O)₂-N(R^{a'})₂, wherein said alkyl group is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms;

Ra^{a'} is selected from the group consisting of -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

each R^b is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

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17. The method of claim 16, wherein 1) when A¹ is N and R^{2a'} is -C₁₋₄ alkyl-C(=O)NHR^{a'}, then Ra^{a'} is other than -(5- to 10-membered)-C₂₋₉ heterocyclyl; or 2) when A⁴ is N, then R^{2a'} is other than -C(=O)Ra^{a'}.

20 18. The method of any one of claims 1-17, wherein R^{1a} is -C₆₋₁₀ aryl or -C₁₋₄ alkyl-C₆₋₁₀ aryl, wherein said aryl or alkylaryl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 1.

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19. The method of any one of claims 1-17, wherein R^{1a} is unsubstituted -C₁₋₄ alkyl-C₆₋₁₀ aryl or -C₁₋₄ alkyl-C₆₋₁₀ aryl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 1.

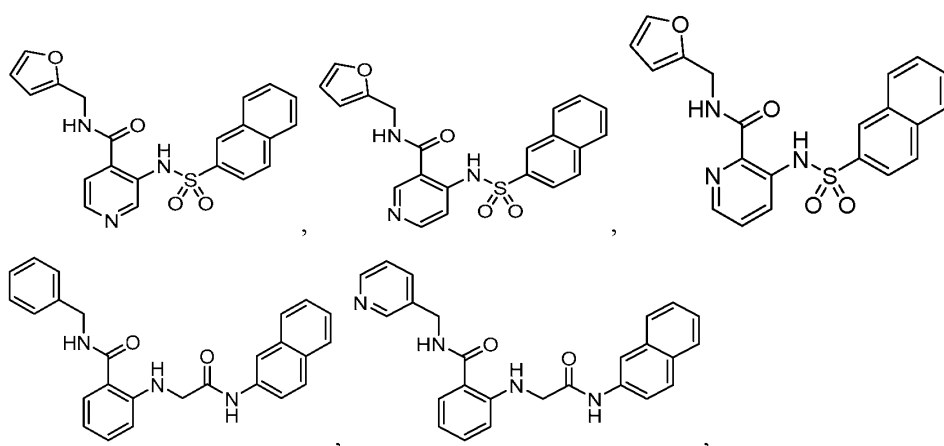
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20. The method of any one of claims 1-17 or 19, wherein R^{1a} is unsubstituted benzyl or unsubstituted phenethyl.
- 5 21. The method of any one of claims 1-17 or 19, wherein R^{1a} is $-C_{1-4}$ alkyl- C_{6-10} aryl substituted with 1 or 2 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-O(C_{1-4})$ alkyl, $-S(C_{1-4})$ alkyl, $-N(C_{1-4})$ alkyl₂, $-NH(C_{1-4})$ alkyl, and $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms.
- 10 22. The method of any one of claims 1-17, 19, or 20, wherein R^{1a} is benzyl substituted with 1 or 2 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-O(C_{1-4})$ alkyl, $-S(C_{1-4})$ alkyl, $-N(C_{1-4})$ alkyl₂, $-NH(C_{1-4})$ alkyl, and $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms.
- 15 23. The method of any one of claims 1-17, wherein R^{1a} is $-C_{3-10}$ cycloalkyl or $-C_{1-4}$ alkyl- C_{3-10} cycloalkyl, wherein said cycloalkyl or alkylcycloalkyl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-OR^b$, $-SR^b$, $-N(R^b)_2$, $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted $-C_{6-10}$ aryl, optionally substituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein R^b is as defined above; and wherein said cycloalkyl is optionally fused to a further (second) ring, and wherein R^b is as defined in claim 1.
- 20 24. The method of any one of claims 1-17, wherein R^{1a} is $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl or $-C_{1-4}$ alkyl- $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, wherein said heteroaryl or alkylheteroaryl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-OR^b$, $-SR^b$, $-N(R^b)_2$, $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted $-C_{6-10}$ aryl, optionally substituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein R^b is as defined in claim 1.
- 25 30 25. The method of any one of claims 1-17 or 24, wherein R^{1a} is unsubstituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl or $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl substituted with 1 or 2

substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -O(C₁₋₄)alkyl, -S(C₁₋₄)alkyl, -N(C₁₋₄alkyl)₂, -NH(C₁₋₄ alkyl), and -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms.

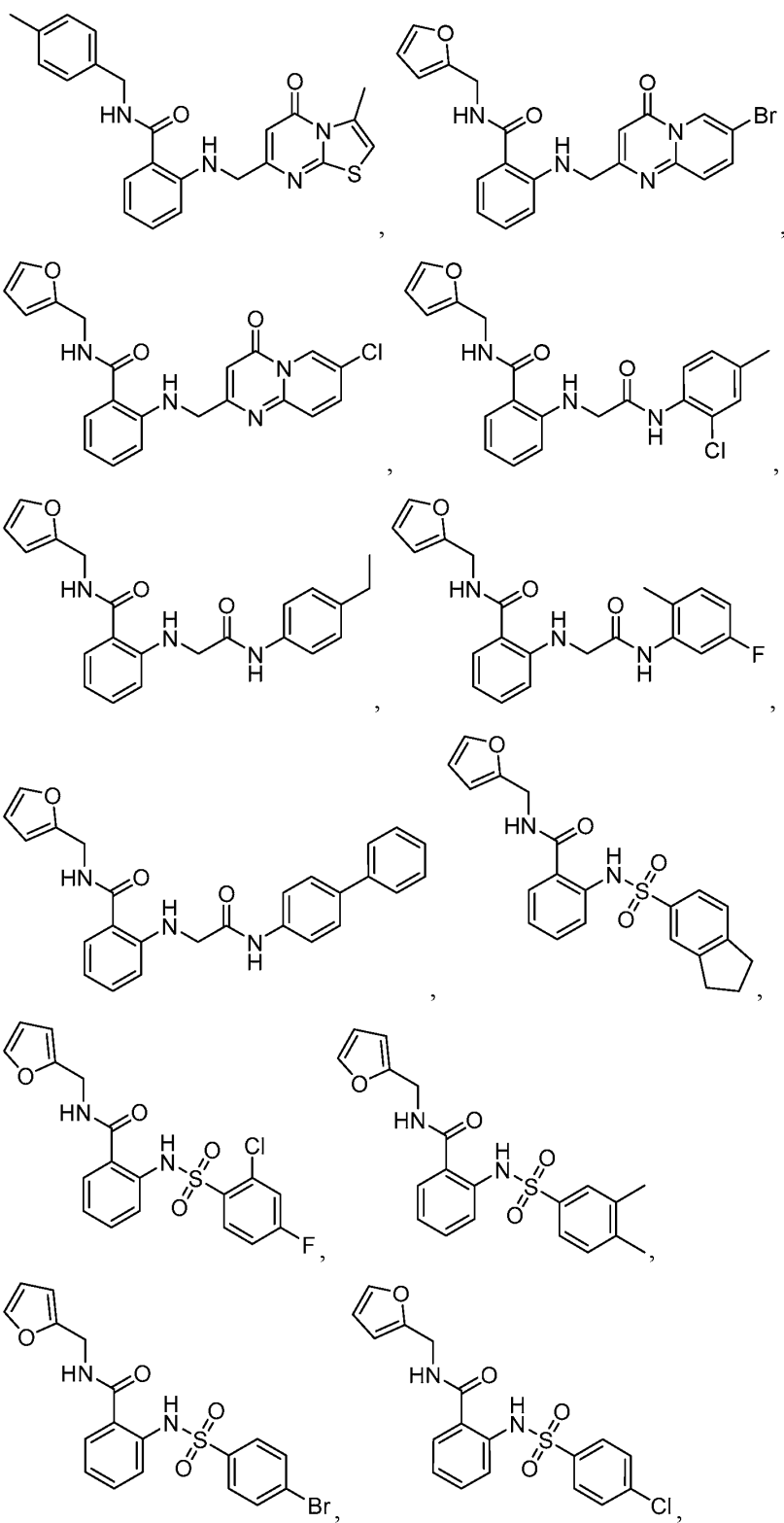
- 5 26. The method of any one of claims 1-17 or 24, wherein R^{1a} is unsubstituted -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl or -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 1.
- 10
27. The method of any one of claims 1-17, 24, or 26, wherein R^{1a} is unsubstituted furan-2-ylmethyl.
- 15
28. The method of any one of claims 1-17, 24, or 26, wherein R^{1a} is -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl substituted with 1 or 2 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -O(C₁₋₄)alkyl, -S(C₁₋₄)alkyl, -N(C₁₋₄ alkyl)₂, -NH(C₁₋₄ alkyl), and -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms.
- 20
29. The method of any one of claims 1-20, 23, 24, 27, or 27, wherein R^b is hydrogen or -C₁₋₄ alkyl.
- 25
30. The method of any one of claims 1-29, wherein R^{2a} is -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, wherein said alkylheteroaryl group is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C(=O)R^a, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring, wherein R^a and R^b are as claimed in claim 1.
- 30

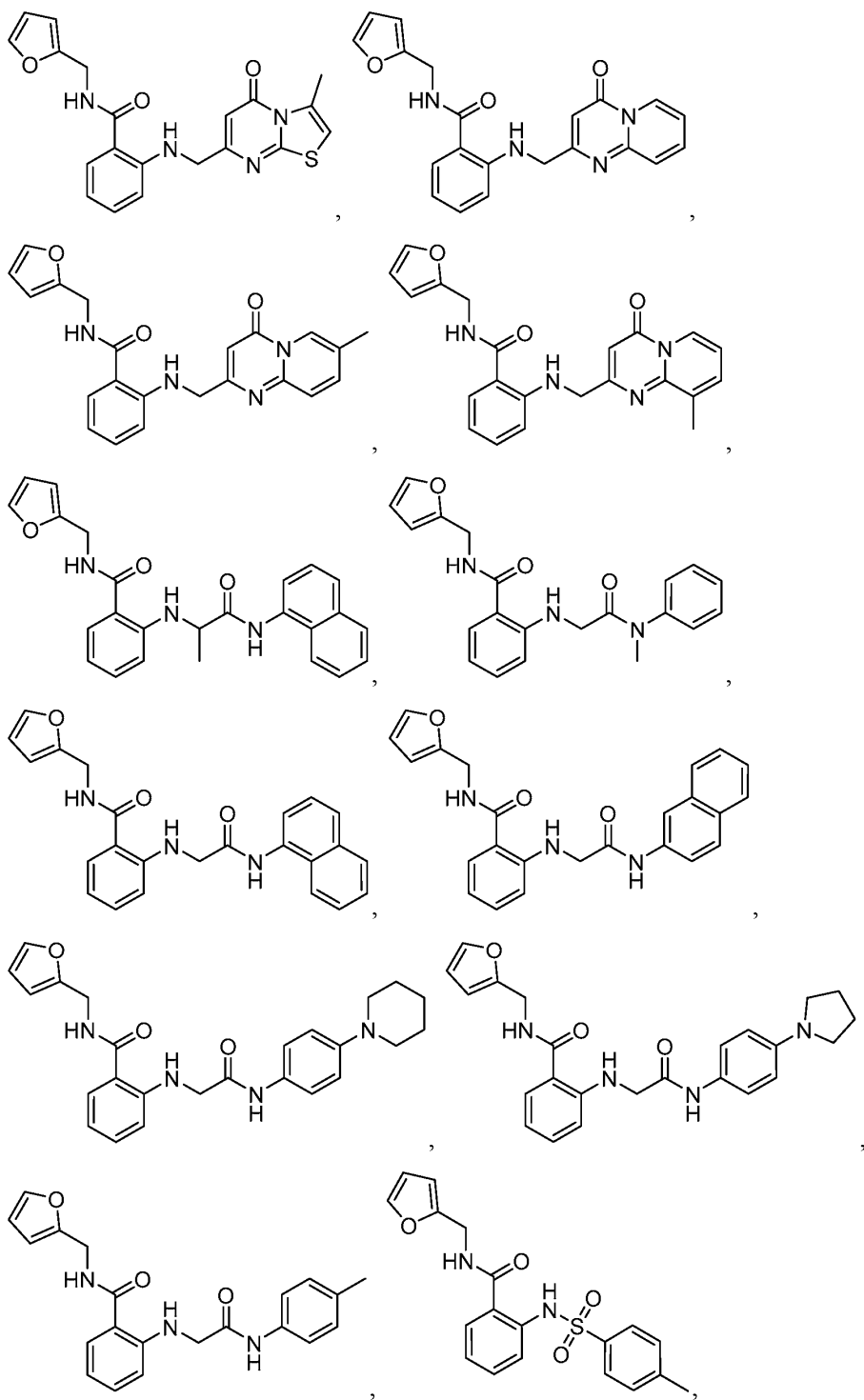
31. The method of any one of claims 1-29, wherein R^{2a} is $-C_{1-4}$ alkyl- $C(=O)NHR^a$ or $-C_{1-4}$ alkyl- $C(=O)N(R^a)_2$, wherein R^a is as defined in claim 1.
32. The method of any one of claims 1-29, wherein R^{2a} is $-S(=O)_2R^a$, wherein R^a is as defined in claim 1.
33. The method of any one of claims 1-29, wherein R^a is selected from the group consisting of $-C_{6-10}$ aryl, $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, $-C_{3-10}$ cycloalkyl, and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein said aryl, heteroaryl, cycloalkyl, and heterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-OR^b$, $-SR^b$, $-N(R^b)_2$, $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted $-C_{6-10}$ aryl, optionally substituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, and wherein said aryl, heteroaryl, cycloalkyl, and heterocyclyl is optionally fused to a further (second) ring.
34. The method of claim 16, wherein the compound is selected from the group consisting of

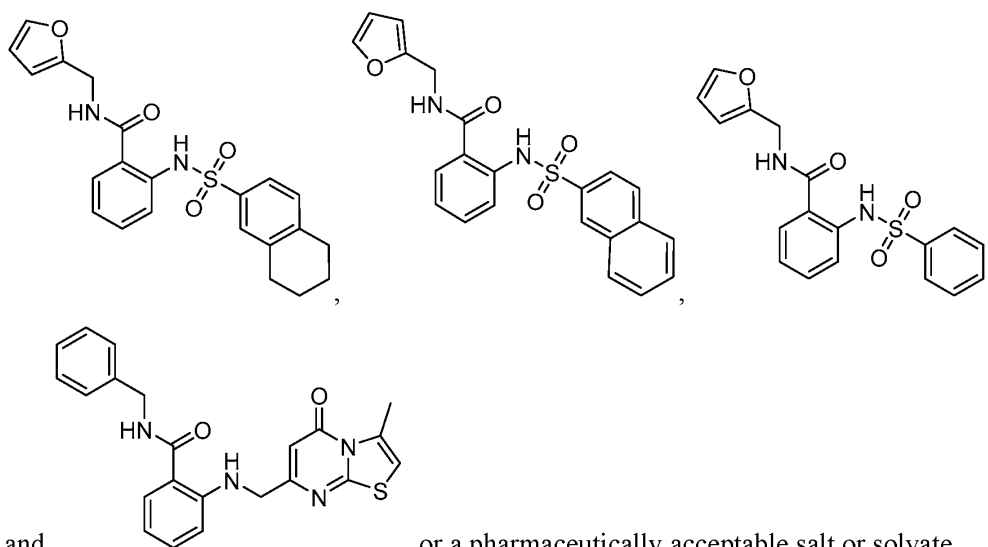


or a pharmaceutically acceptable salt or solvate thereof.

35. The method of any one of claims 1-6, wherein the compound of formula (IA) is selected from the group consisting of

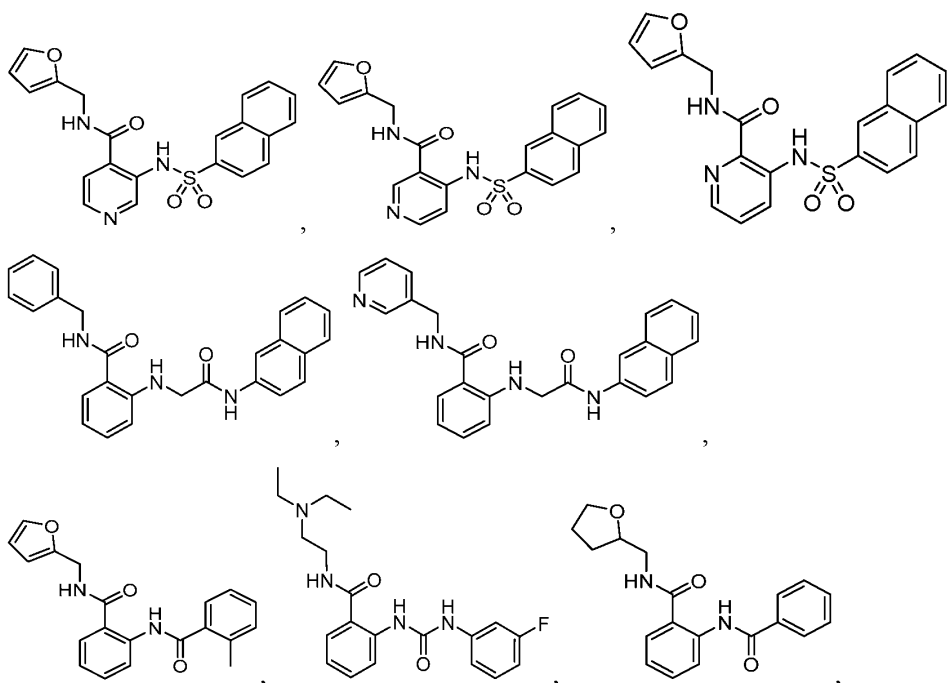


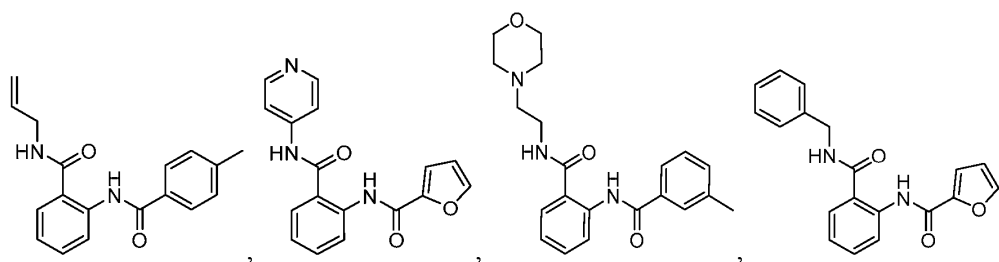




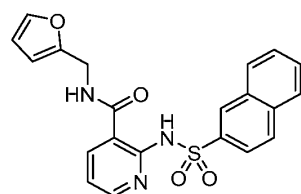
and , or a pharmaceutically acceptable salt or solvate thereof.

- 5 36. The method of any one of claims 1-6, wherein the compound of formula (IA) is selected from the group consisting of



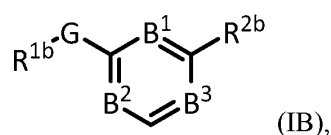


and



, or a pharmaceutically acceptable salt or solvate thereof.

- 5 37. A method of treating or preventing a condition associated with the alteration of the activity of galactocerebrosidase in a patient, comprising administering to the patient in need thereof an effective amount of a compound of formula (IB):



or a pharmaceutically acceptable salt or solvate thereof, wherein

10 G is -C(=O)-NH- or -NH-C(=O)-;

B¹, B², and B³ are each independently selected from the group consisting of N, CH and C(R^{3b});

each R^{3b} is independently selected from the group consisting of halogen, C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -OH, C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and CN;

15 R^{1b} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -C₂₋₄ alkylene-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -C₂₋₄ alkylene-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₂₋₄ alkenyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl groups are
20 optionally substituted with 1, 2 or 3 substituents each independently selected from the

group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

R^{2b} is -C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C(=O)R^a, -S(=O)₂R^a, -C(=O)-NH-R^a, -S(=O)₂-NH-R^a, -C₁₋₄ alkyl-C(=O)R^a, -C₁₋₄ alkyl-S(=O)₂R^a, or -N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl are optionally fused to a further (second) ring; or

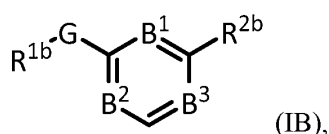
R^{2b} and R^{3b} attached to an adjacent carbon atom together form a 5- or 6-membered heterocyclic ring containing one N-atom substituted with -S(=O)₂R^a;

R^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

each R^b is independently hydrogen, -C(=O)R^a, -S(=O)₂R^a, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl,

wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

38. A method of treating or preventing a lysosomal storage disease or an α -synucleinopathy,
 5 comprising administering to a patient in need thereof an effective amount of a compound of formula (IB):



or a pharmaceutically acceptable salt or solvate thereof, wherein

G is -C(=O)-NH- or -NH-C(=O)-;

- 10 B^1 , B^2 , and B^3 are each independently selected from the group consisting of N, CH and C(R^{3b});

each R^{3b} is independently selected from the group consisting of halogen, C_{1-4} alkyl, halo(C_{1-4} alkyl), -OH, C_{1-4} alkoxy, halo(C_{1-4} alkoxy), and CN;

- 15 R^{1b} is selected from the group consisting of - C_{1-4} alkyl, - C_{3-10} cycloalkyl, - C_{1-4} alkyl- C_{3-10} cycloalkyl, - C_{6-10} aryl, - C_{1-4} alkyl- C_{6-10} aryl, - C_{2-4} alkylene- C_{6-10} aryl, (5- to 10-membered)- C_{1-9} heteroaryl, - C_{1-4} alkyl-(5- to 10-membered)- C_{1-9} heteroaryl, - C_{2-4} alkylene-(5- to 10-membered)- C_{1-9} heteroaryl, (5- to 10-membered)- C_{2-9} heterocyclyl, - C_{1-4} alkyl-(5- to 10-membered)- C_{2-9} heterocyclyl, and - C_{2-4} alkenyl-(5- to 10-membered)- C_{2-9} heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl groups are
 20 optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, - C_{1-4} alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C_{6-10} aryl, optionally substituted (5- to 10-membered)- C_{1-9} heteroaryl, and (5- to 10-membered)- C_{2-9} heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused
 25 to a further (second) ring;

- 30 R^{2b} is - C_{6-10} aryl, -(5- to 10-membered)- C_{1-9} heteroaryl, -C(=O)Ra^b, -S(=O)₂Ra^b, -C(=O)-NH-Ra^b, -S(=O)₂-NH-Ra^b, - C_{1-4} alkyl-C(=O)Ra^b, - C_{1-4} alkyl-S(=O)₂Ra^b, or -N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3

substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl are optionally fused to a further (second) ring; or

R^{2b} and R^{3b} attached to an adjacent carbon atom together form a 5- or 6-membered heterocyclic ring containing one N-atom substituted with -S(=O)₂R^a;

R^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

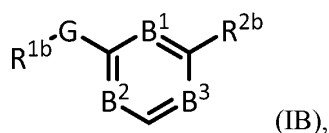
each R^b is independently hydrogen, -C(=O)R^a, -S(=O)₂R^a, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

39. The method of claim 38, wherein a lysosomal storage disease is treated or prevented.

40. The method of claims 38 or 39, wherein the lysosomal storage disease is Krabbe's disease.

41. The method of claim 38, wherein an α -synucleinopathy is treated or prevented.

42. A method of treating or preventing a disease or disorder, comprising administering to a patient in need thereof an effective amount of a compound of formula (IB):



or a pharmaceutically acceptable salt or solvate thereof, wherein

5 G is -C(=O)-NH- or -NH-C(=O)-;

B¹, B², and B³ are each independently selected from the group consisting of N, CH and C(R^{3b});

each R^{3b} is independently selected from the group consisting of halogen, C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -OH, C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and CN;

10 R^{1b} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -C₂₋₄ alkylene-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -C₂₋₄ alkylene-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₂₋₄ alkenyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

25 R^{2b} is -C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C(=O)Ra^b, -S(=O)₂Ra^b, -C(=O)-NH-Ra^b, -S(=O)₂-NH-Ra^b, -C₁₋₄ alkyl-C(=O)Ra^b, -C₁₋₄ alkyl-S(=O)₂Ra^b, or -N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-

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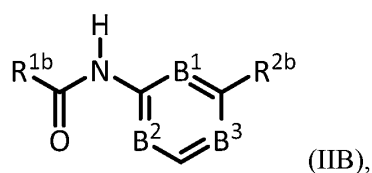
membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl are optionally fused to a further (second) ring; or

5 R^{2b} and R^{3b} attached to an adjacent carbon atom together form a 5- or 6-membered heterocyclic ring containing one N-atom substituted with -S(=O)₂Ra^b;

Ra^b is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

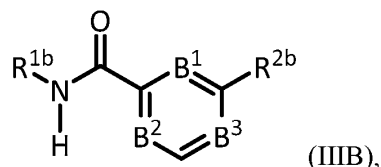
each Rb^b is independently hydrogen, -C(=O)Ra^b, -S(=O)₂Ra^b, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

43. The method of any one of claims 37-42, comprising administering to a patient in need thereof an effective amount of a compound of formula (IB) where G is -C(=O)-NH-, which is a compound of formula (IIB):



or a pharmaceutically acceptable salt or solvate thereof, wherein B¹, B², B³, R^{1b}, and R^{2b} are as defined in claim 37.

44. The method of any one of claims 37-42, comprising administering to a patient in need thereof an effective amount of a compound of formula (IB) where G is -NH-C(=O)-, which is a compound of formula (IIIB):



- 5 or a pharmaceutically acceptable salt or solvate thereof, wherein B¹, B², B³, R^{1b}, and R^{2b} are as defined in claim 37.

45. The method of any one of claims 37-44, wherein B¹, B², and B³ are CH.

- 10 46. The method of any one of claims 37-44, wherein one of B¹, B², and B³ is C(R^{3b}) and the ones not C(R^{3b}) are CH.

47. The method of any one of claims 37-44, wherein two of B¹, B², and B³ is C(R^{3b}) and the one not C(R^{3b}) is CH.

15

48. The method of any one of claims 37-44, wherein one of B¹, B² and B³ is N.

49. The method of any one of claims 37-44, wherein two of B¹, B² and B³ are N.

- 20 50. The method of any one of claims 37-44, wherein B¹, B² and B³ are N.

51. The method of any one of claims 37-44, wherein B¹ is N and B² and B³ are each independently selected from the group consisting of CH and C(R^{3b}).

- 25 52. The method of any one of claims 37-44, wherein B² is N and B¹ and B³ are each independently selected from the group consisting of CH and C(R^{3b}).

53. The method of any one of claims 37-44, wherein B³ is N and B¹ and B² are each independently selected from the group consisting of CH and C(R^{3b}).

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54. The method of any one of claims 37-44, wherein B¹ and B² are both N and B³ is CH or C(R^{3b}).
55. The method of any one of claims 37-44, wherein B¹ and B³ are both N and B² is CH or C(R^{3b}).
56. The method of any one of claims 37-44, wherein B² and B³ are both N and B¹ is CH or C(R^{3b}).
57. The method of any one of claims 37-56, wherein R^{1b} is -C₆₋₁₀ aryl or -C₁₋₄ alkyl-C₆₋₁₀ aryl, wherein said aryl or alkylaryl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 37.
58. The method of any one of claims 37-56, wherein R^{1b} is unsubstituted -C₁₋₄ alkyl-C₆₋₁₀ aryl or -C₁₋₄ alkyl-C₆₋₁₀ aryl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 37.
59. The method of any one of claims 37-56 or 58, wherein R^{1b} is -C₁₋₄ alkyl-C₆₋₁₀ aryl substituted with 1 or 2 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -O(C₁₋₄)alkyl, -S(C₁₋₄)alkyl, -N(C₁₋₄ alkyl)₂, -NH(C₁₋₄ alkyl), and -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms.
60. The method of any one of claims 37-56, wherein R^{1b} is -C₃₋₁₀ cycloalkyl or -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, wherein said cycloalkyl or alkylcycloalkyl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally

substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein Rb^b is as defined in claim 35; and wherein said cycloalkyl is optionally fused to a further (second) ring.

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61. The method of any one of claims 37-56, wherein R^{1b} is -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, or -C₂₋₄ alkenyl-(5- to 10-membered)-C₁₋₉ heteroaryl, wherein said heteroaryl, alkylheteroaryl, or alkenylheteroaryl is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -ORb^b, -SRb^b, -N(Rb^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein Rb^b is as defined in claim 37.

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62. The method of any one of claims 37-57 or 61, wherein R^{1b} is unsubstituted -(5- to 10-membered)-C₁₋₉ heteroaryl or -(5- to 10-membered)-C₁₋₉ heteroaryl substituted with 1 or 2 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -O(C₁₋₄)alkyl, -S(C₁₋₄)alkyl, -N(C₁₋₄alkyl)₂, -NH(C₁₋₄ alkyl), and -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms.

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63. The method of any one of claims 37-56 or 61, wherein R^{1b} is unsubstituted -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl or -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -ORb^a, -SRb^a, -N(Rb^a)₂, -C₁₋₄alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein Rb^b is as defined in claim 37.

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64. The method of any one of claims 37-56 or 61, wherein R^{1b} is unsubstituted -C₂₋₄ alkenyl-(5- to 10-membered)-C₁₋₉ heteroaryl or -C₂₋₄ alkenyl-(5- to 10-membered)-C₁₋₉ heteroaryl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -ORb^a, -SRb^a, -N(Rb^a)₂, -C₁₋₄alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally

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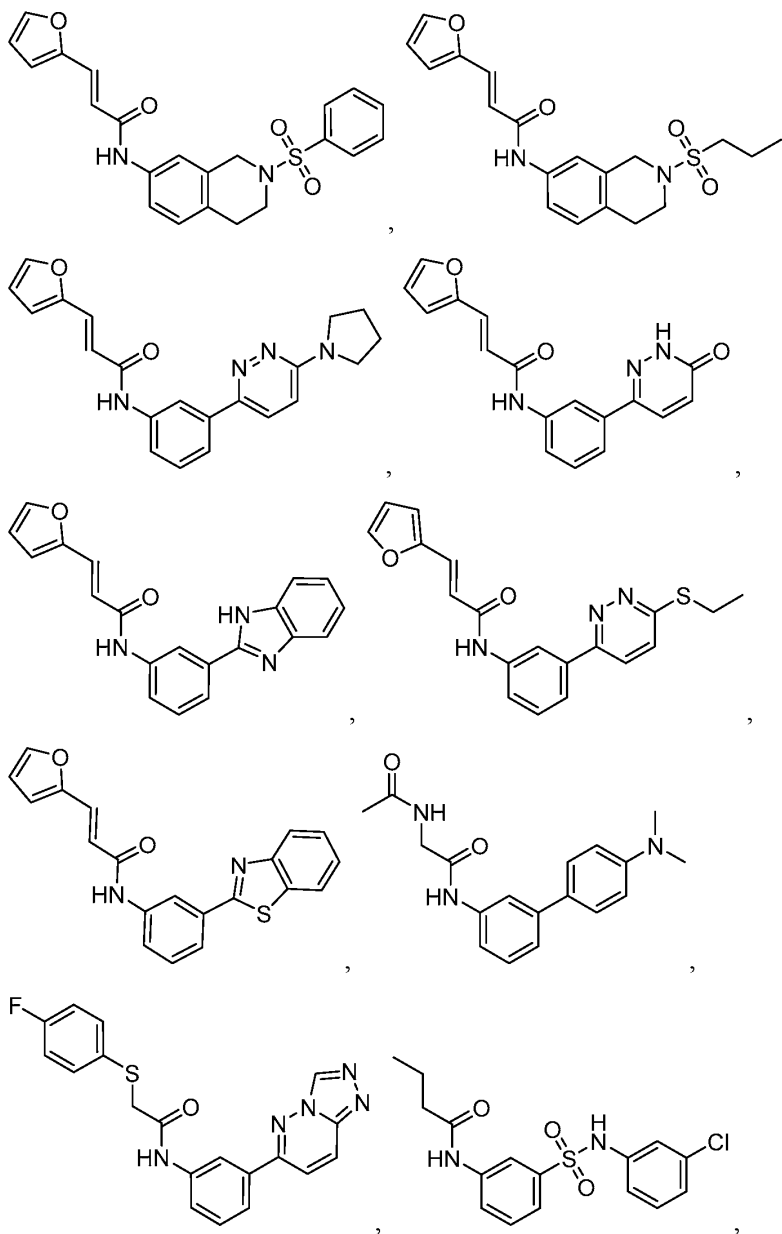
substituted -(5- to 10-membered)-C₁₋₉ heteroaryl and -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein R^b is as defined in claim 37.

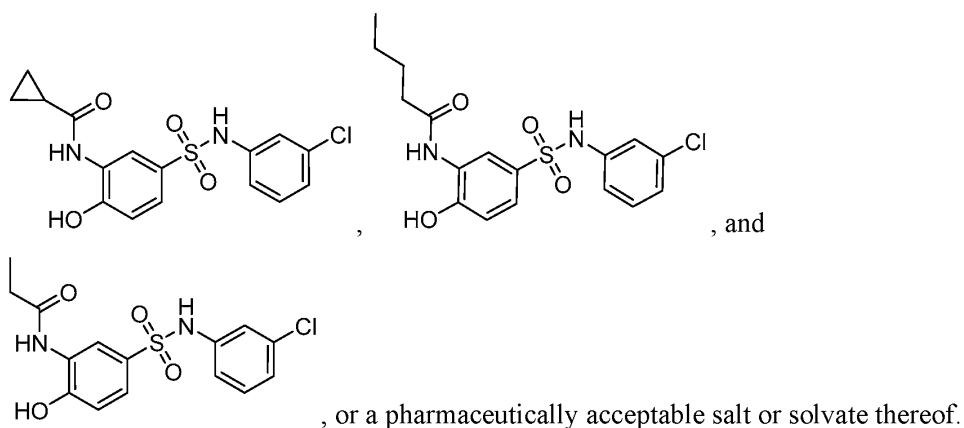
65. The method of any one of claims 37-56, 61, or 64, wherein R^{1b} is unsubstituted furan-2-yl-ethenyl.
66. The method of any one of claims 37-56, wherein R^{1b} is -C₁₋₄ alkyl optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring, wherein R^b is as defined in claim 37.
67. The method of any one of claims 37-56 or 66, wherein R^{1b} is unsubstituted -C₁₋₄ alkyl.
68. The method of any one of claims 37-56 or 66, wherein R^{1b} is -C₁₋₄ alkyl substituted with -OR^b, -SR^b, or -N(R^b)₂, wherein R^b is as defined in claim 37.
69. The method of any one of claims 37-56, 66, or 68, wherein each R^b is independently hydrogen, -C(=O)R^a, -S(=O)₂R^a, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.
70. The method of any one of claims 37-69, wherein R^{2b} is -C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C(=O)R^a, -S(=O)₂R^a, -C(=O)-NH-R^a, -S(=O)₂-NH-R^a, -C₁₋₄ alkyl-C(=O)R^a, -C₁₋₄ alkyl-S(=O)₂R^a, or -N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉

heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl is optionally fused to a further (second) ring.

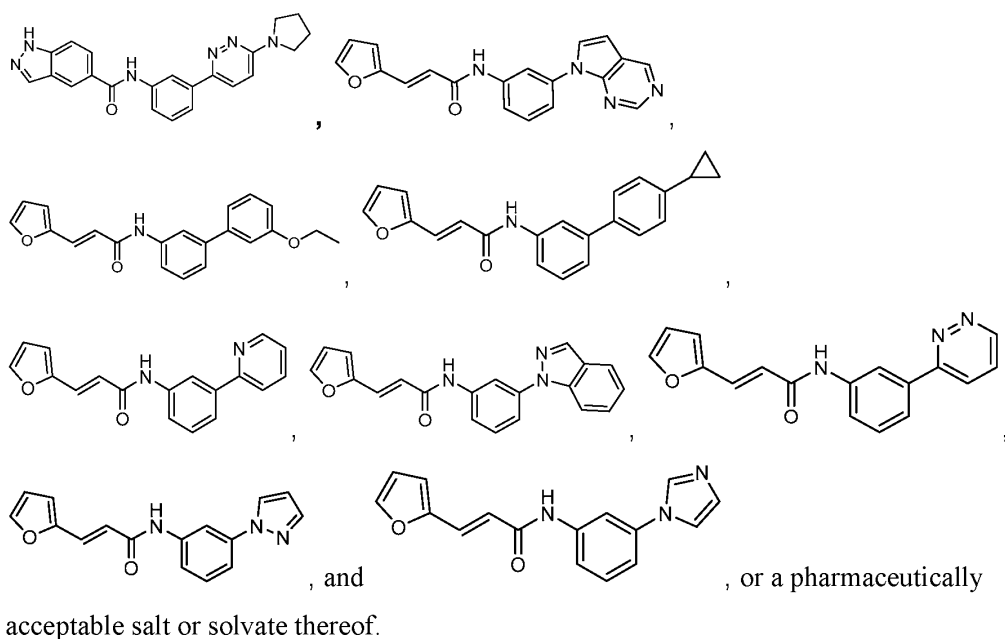
71. The method of any one of claims 37-70, wherein R^{2b} is -C₆₋₁₀ aryl or -(5- to 10-membered)-
5 C₁₋₉ heteroaryl, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2
or 3 substituents each independently selected from the group consisting of halogen,
hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or
3 substituents each independently selected from the group consisting of halogen, CN,
-OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-
10 membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl;
and wherein said aryl, heteroaryl, and heterocyclyl is optionally fused to a further (second)
ring; wherein R^b is as defined in claim 37.
72. The method of any one of claims 37-69, wherein R^{2b} is -S(=O)₂Ra^b, -C(=O)-NH-Ra^b,
15 -S(=O)₂-NH-Ra^b, -C₁₋₄ alkyl-C(=O)Ra^b, -C₁₋₄ alkyl-S(=O)₂Ra^b, or -N(R^b)₂, wherein
wherein Ra^b and R^b are as defined in claim 37.
73. The method of any one of claims 37-69 or 72, wherein R^{2b} is -C(=O)-NH-Ra^b or -S(=O)₂-
NH-Ra^b, wherein Ra^b is -C₆₋₁₀ aryl optionally substituted with 1, 2 or 3 substituents each
20 independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b,
-N(R^b)₂, and -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms.
74. The method of any one of claims 37-69, wherein R^{2b} and R^{3b} attached to an adjacent carbon
atom together form a 5- or 6-membered N-containing heterocyclic ring substituted at the
25 N-atom with -S(=O)₂Ra^b; wherein Ra^b is as defined in claim 37.
75. The method of any one of claims 37-74, wherein R^b is hydrogen or -C₁₋₄ alkyl.
76. The method of any one of claims 37-74, wherein R^b is hydrogen, -C(=O)Ra^b, -S(=O)₂Ra^b,
30 -C₁₋₄ alkyl, -C₃₋₆ cycloalkyl, -(5- to 6-membered)-C₂₋₉ heterocyclyl, or -C₆₋₁₀ aryl optionally
substituted with 1, 2 or 3 substituents each independently selected from the group
consisting of halogen, hydroxy, CN, -O(C₁₋₄ alkyl), -S(C₁₋₄ alkyl), -NH(C₁₋₄ alkyl), -N(C₁₋₄
alkyl)₂, and -C₁₋₄alkyl optionally substituted by 1, 2 or 3 fluorine atoms.

77. The method of any one of claims 37-43, wherein the compound is selected from the group consisting of

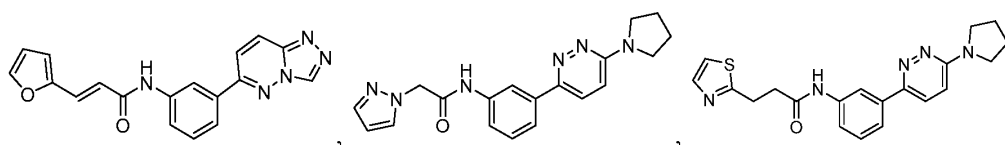


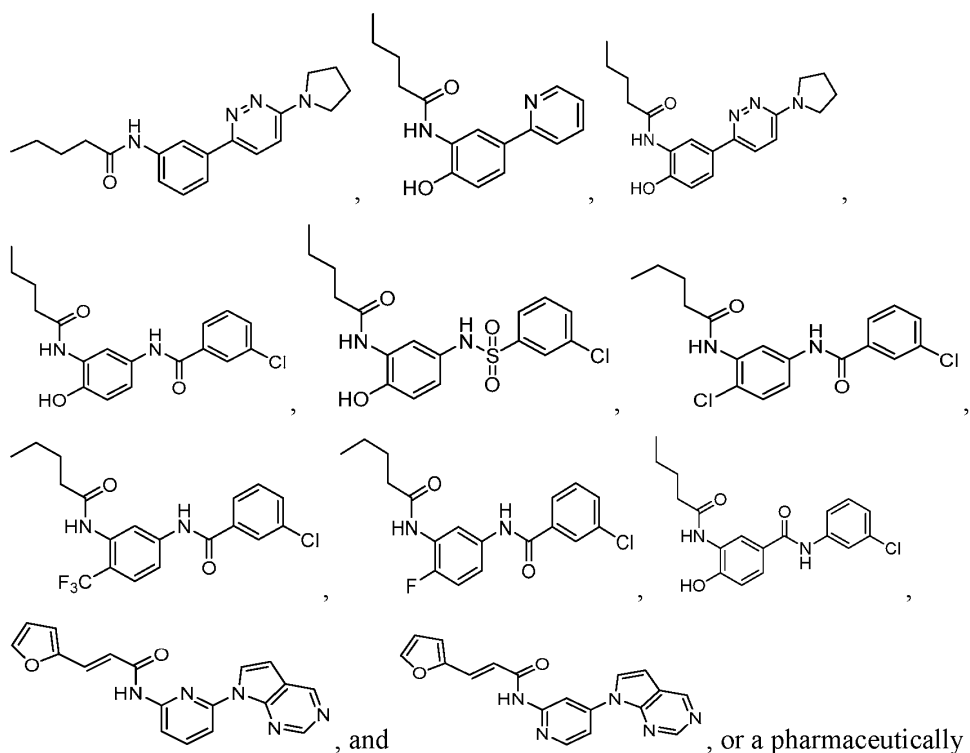


78. The method of any one of claims 37-43, wherein the compound is selected from the group consisting of



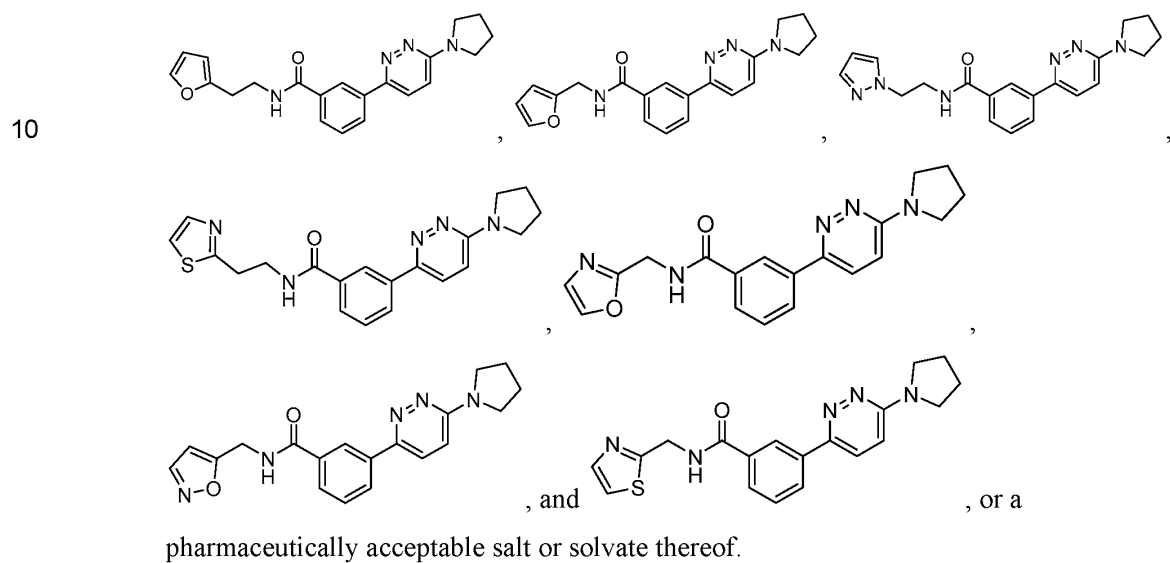
79. The method of any one of claims 37-43, wherein the compound is selected from the group consisting of



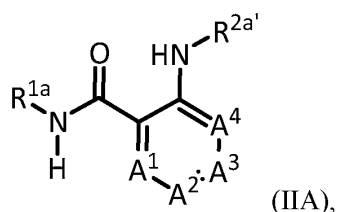


5 acceptable salt or solvate thereof.

80. The method of any one of claims 37-42, or 44, wherein the compound is selected from the group consisting of



81. The method of any one of claims 1-80, further comprising administering to the patient at least one other therapeutic agent.
- 5 82. The method of claim 81, wherein the therapeutic agent is an effective amount of an enzyme for enzyme replacement therapy.
83. The method of claim 82, wherein the enzyme is galactocerebrosidase or an analog thereof.
- 10 84. The method of claim 81, wherein the therapeutic agent is an effective amount of a small molecule chaperone.
85. The method of claim 84, wherein the small molecule chaperone binds competitively to an enzyme.
- 15 86. The method of claims 84 or 85, wherein the small molecule chaperone is selected from the group consisting of iminoalditols, iminosugars, aminosugars, thiophenylglycosides, glycosidase, sulfatase, glycosyl transferase, phosphatase, and peptidase inhibitors.
- 20 87. A compound of formula (IIA):



or a pharmaceutically acceptable salt or solvate thereof, wherein

A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and C(R^{3a}), provided that no more than one of A^1 , A^2 , A^3 , or A^4 is N;

- 25 each R^{3a} is independently selected from the group consisting of halogen, -OH, C_{1-4} alkyl, halo(C_{1-4} alkyl), C_{1-4} alkoxy, halo(C_{1-4} alkoxy), and CN;

- R^{1a} is selected from the group consisting of $-C_{1-4}$ alkyl, $-C_{3-10}$ cycloalkyl, $-C_{1-4}$ alkyl- C_{3-10} cycloalkyl, $-C_{6-10}$ aryl, $-C_{1-4}$ alkyl- C_{6-10} aryl, (5- to 10-membered)- C_{1-9} heteroaryl, $-C_{1-4}$ alkyl-(5- to 10-membered)- C_{1-9} heteroaryl, (5- to 10-membered)- C_{2-9} heterocyclyl, and $-C_{1-4}$ alkyl-(5- to 10-membered)- C_{2-9} heterocyclyl, wherein said alkyl, cycloalkyl,
- 30

alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydrox, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

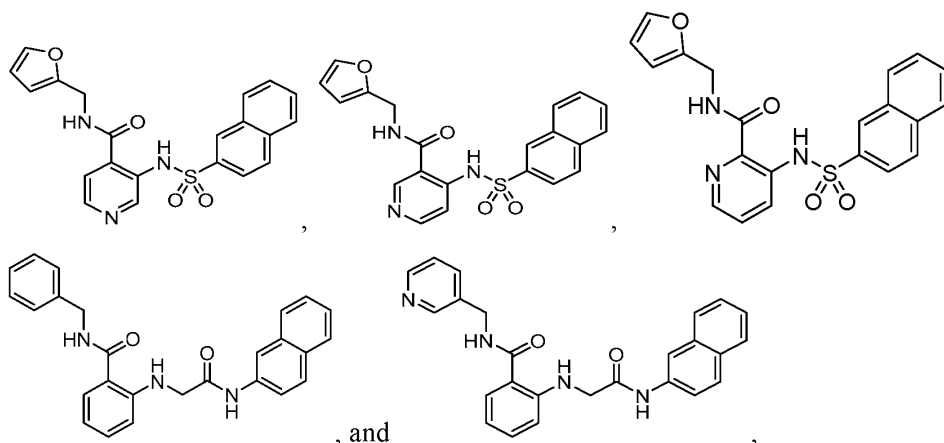
R^{2a'} is selected from the group consisting of -C(=O)Ra^{a'}, -S(=O)₂Ra^{a'}, -C₁₋₄ alkyl-C(=O)NHRa^{a'}, -C₁₋₄ alkyl-C(=O)N(Ra^{a'})₂, -C₁₋₄ alkyl-S(=O)₂-N(Ra^{a'})₂, wherein said alkyl group is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms;

Ra^{a'} is selected from the group consisting of -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

each R^b is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

88. The compound of claim 87, wherein 1) when A¹ is N and R^{2a'} is -C₁₋₄ alkyl-C(=O)NHRa^{a'}, then Ra^{a'} is other than -(5- to 10-membered)-C₂₋₉ heterocyclyl; or 2) when A⁴ is N, then R^{2a'} is other than -C(=O)Ra^{a'}.

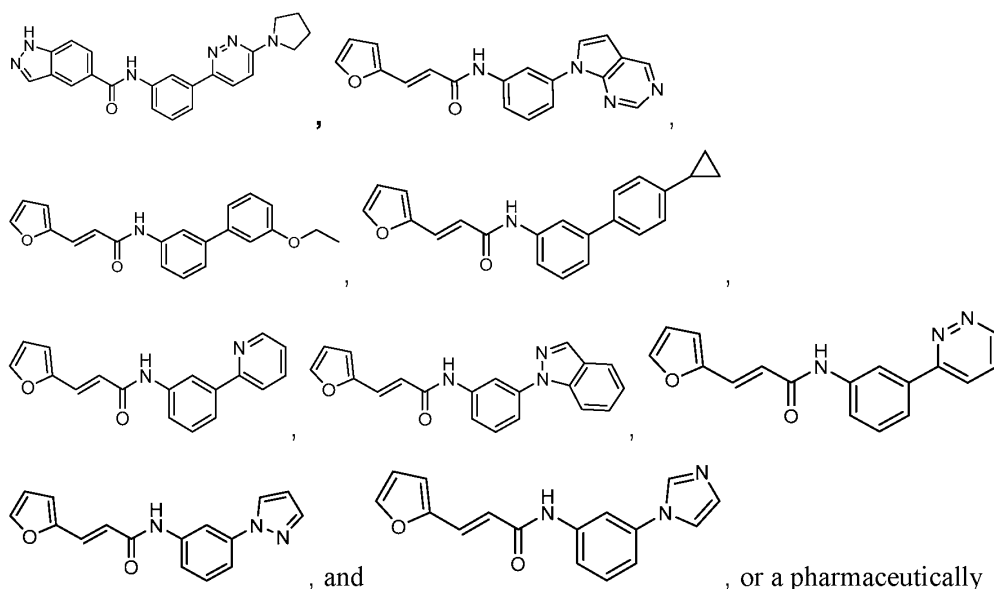
89. The compound of claim 87, wherein the compound is selected from the group consisting of



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or a pharmaceutically acceptable salt or solvate thereof.

90. A compound selected from the group consisting of compound is selected from the group consisting of

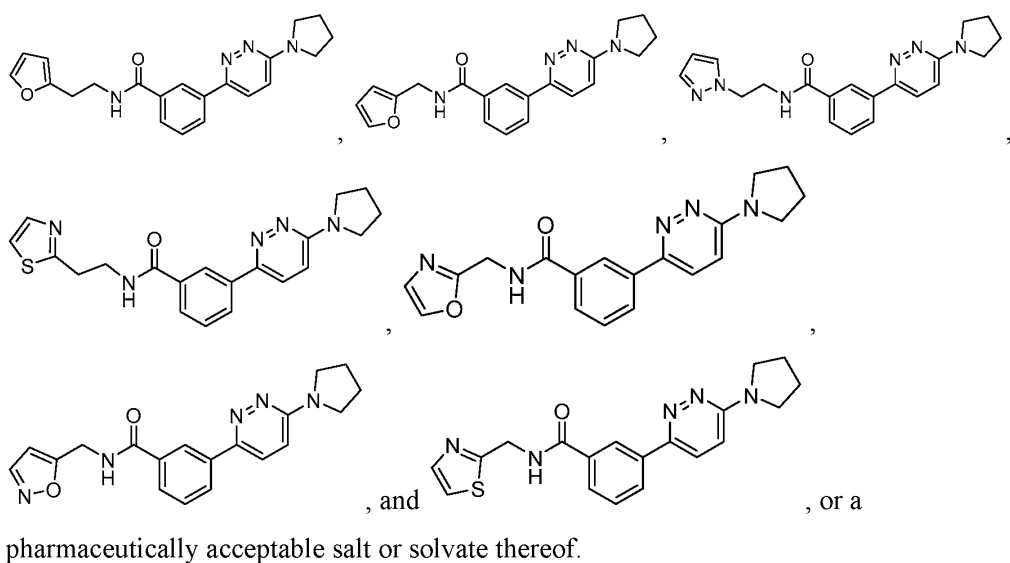


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acceptable salt or solvate thereof.

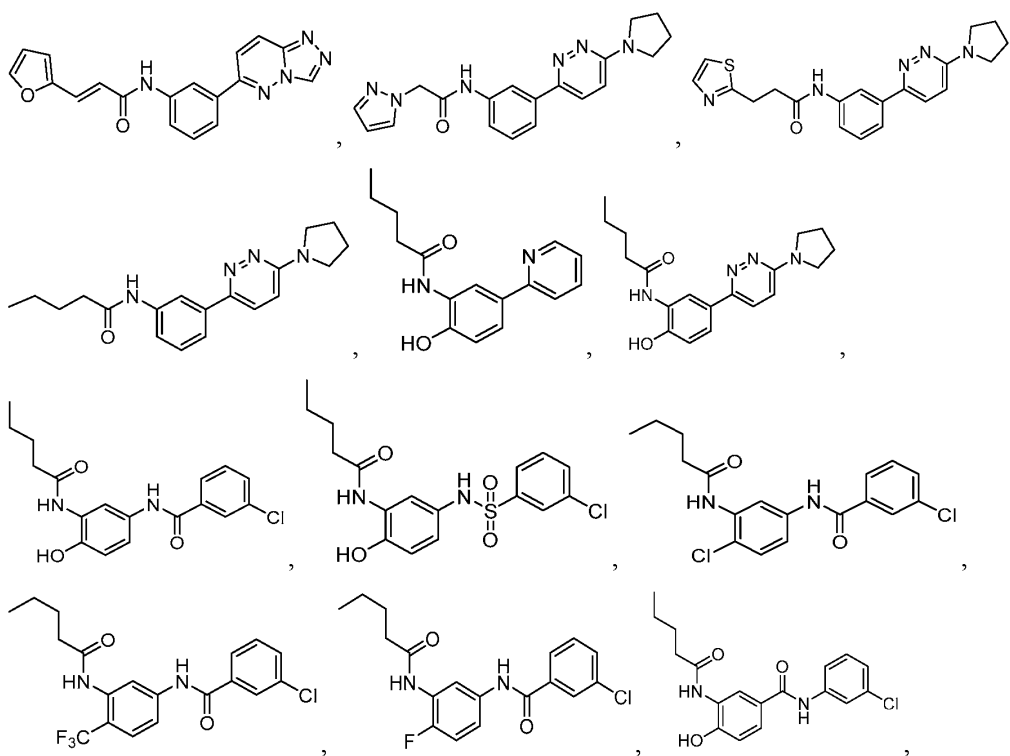
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91. A compound selected from the group consisting of

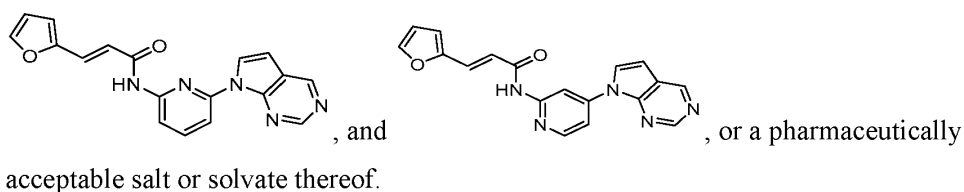


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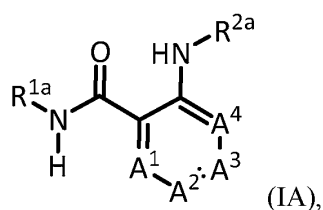
92. A compound selected from the group consisting of



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93. A pharmaceutical composition, comprising an effective amount of a compound of formula (IA), or a pharmaceutically acceptable salt or solvate thereof, and at least one pharmaceutically acceptable excipient, wherein the compound of formula (IA) has the structure:



or a pharmaceutically acceptable salt or solvate thereof, wherein

- 10 A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and $C(R^{3a})$;

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

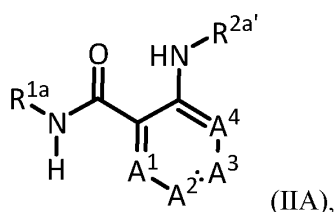
- 15 R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each
- 20 independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally
- 25 fused to a further (second) ring; and

R^{2a} is selected from the group consisting of $-C_{1-4}$ alkyl, $-C(=O)Ra^a$, $-C(=O)NHRa^a$, $-S(=O)_2Ra^a$, $-C_{1-4}$ alkyl- $C(=O)Ra^a$, $-C_{1-4}$ alkyl- $C(=O)NHRa^a$, $-C_{1-4}$ alkyl- $C(=O)N(Ra^a)_2$, $-C_{1-4}$ alkyl- $S(=O)_2Ra^a$, $-C_{1-4}$ alkyl- $S(=O)_2N(Ra^a)_2$, $-C_{1-4}$ alkyl- C_{3-10} cycloalkyl, $-C_{1-4}$ alkyl- C_{6-10} aryl, $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, $-C_{1-4}$ alkyl- $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, and $-C_{1-4}$ alkyl- $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-C(=O)Ra^a$, $-ORb^a$, $-SRb^a$, $-N(Rb^a)_2$, $(=O)$, $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C_{6-10} aryl, optionally substituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

Ra^a is selected from the group consisting of $-C_{1-4}$ alkyl, $-C_{3-10}$ cycloalkyl, $-C_{1-4}$ alkyl- C_{3-10} cycloalkyl, $-C_{6-10}$ aryl, $-C_{1-4}$ alkyl- C_{6-10} aryl, $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, $-C_{1-4}$ alkyl- $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, and $-C_{1-4}$ alkyl- $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, $-CN$, $-ORb^a$, $-SRb^a$, $-N(Rb^a)_2$, $-C_{1-4}$ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted $-C_{6-10}$ aryl, optionally substituted $-(5- \text{ to } 10\text{-membered})-C_{1-9}$ heteroaryl, and $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

each Rb^a is independently hydrogen, $-C_{1-4}$ alkyl, $-C_{3-10}$ cycloalkyl, or $-(5- \text{ to } 10\text{-membered})-C_{2-9}$ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

94. The pharmaceutical composition of claim 93, wherein the compound of formula (IA) is a compound of formula (IIA) having the structure:



or a pharmaceutically acceptable salt or solvate thereof, wherein

A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and C(R^{3a}), provided that no more than one of A^1 , A^2 , A^3 , or A^4 is N;

5 each R^{3a} is independently selected from the group consisting of halogen, -OH, C_{1-4} alkyl, halo(C_{1-4} alkyl), C_{1-4} alkoxy, halo(C_{1-4} alkoxy), and CN;

R^{1a} is selected from the group consisting of - C_{1-4} alkyl, - C_{3-10} cycloalkyl, - C_{1-4} alkyl- C_{3-10} cycloalkyl, - C_{6-10} aryl, - C_{1-4} alkyl- C_{6-10} aryl, (5- to 10-membered)- C_{1-9} heteroaryl, - C_{1-4} alkyl-(5- to 10-membered)- C_{1-9} heteroaryl, (5- to 10-membered)- C_{2-9} heterocyclyl, and - C_{1-4} alkyl-(5- to 10-membered)- C_{2-9} heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydrox, -CN, -OR^b, -SR^b, -N(R^b)₂, - C_{1-4} alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C_{6-10} aryl, optionally substituted (5- to 10-membered)- C_{1-9} heteroaryl, and (5- to 10-membered)- C_{2-9} heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

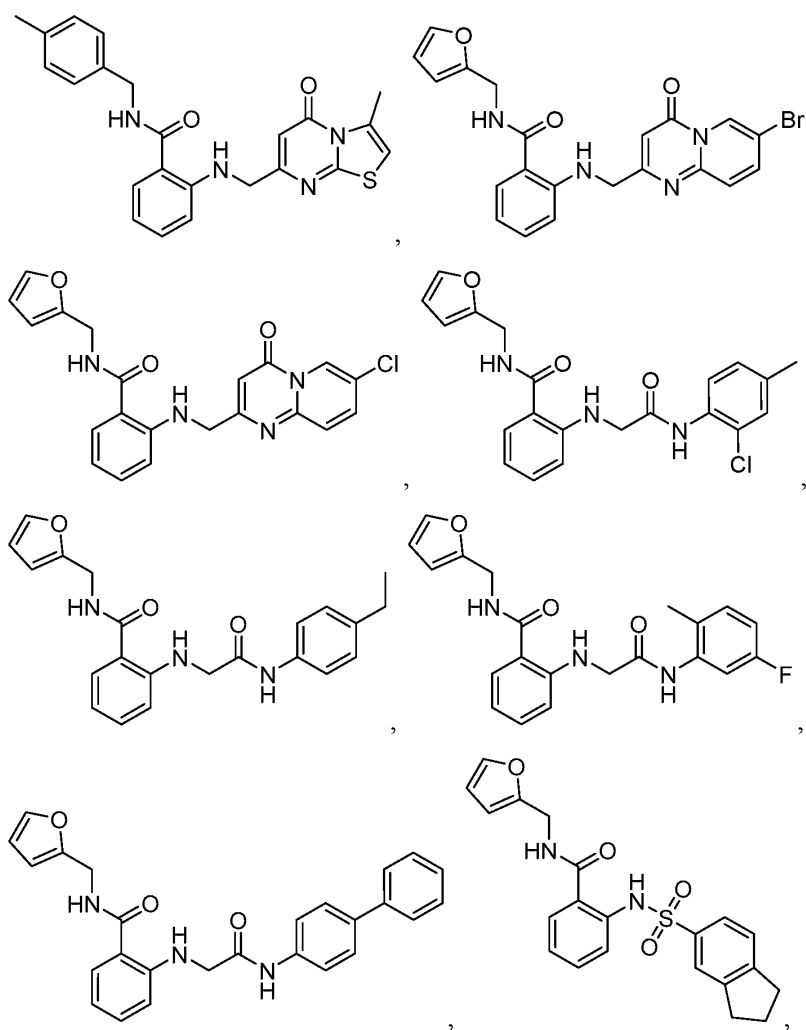
$R^{2a'}$ is selected from the group consisting of -C(=O)Ra^{a'}, -S(=O)₂Ra^{a'}, - C_{1-4} alkyl-C(=O)NHRa^{a'}, - C_{1-4} alkyl-C(=O)N(Ra^{a'})₂, - C_{1-4} alkyl-S(=O)₂-N(Ra^{a'})₂, wherein said alkyl group is optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, - C_{1-4} alkyl optionally substituted with 1, 2, or 3 halogen atoms;

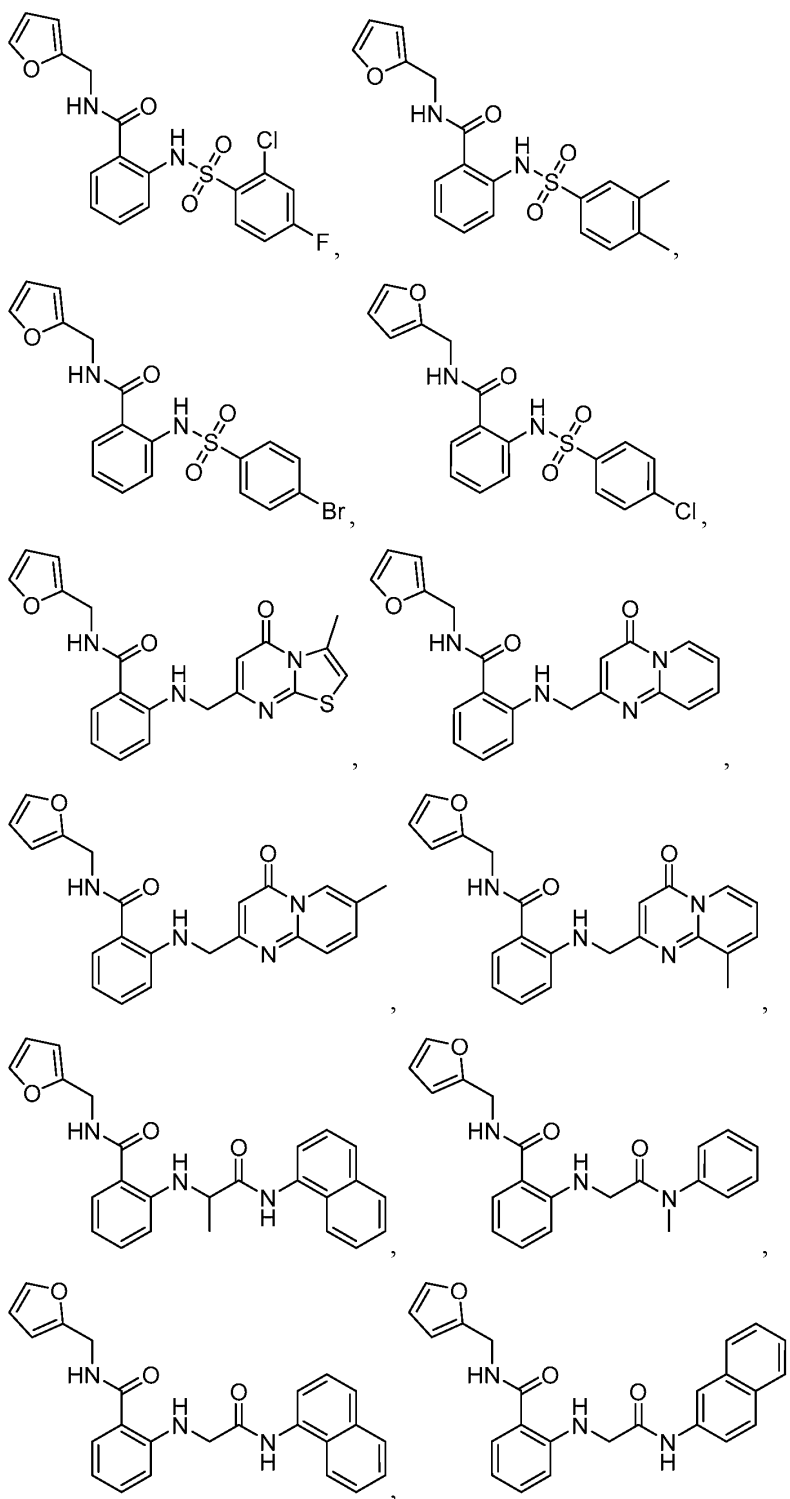
Ra^a is selected from the group consisting of - C_{6-10} aryl, - C_{1-4} alkyl- C_{6-10} aryl, (5- to 10-membered)- C_{1-9} heteroaryl, - C_{1-4} alkyl-(5- to 10-membered)- C_{1-9} heteroaryl, -(5- to 10-membered)- C_{2-9} heterocyclyl, and - C_{1-4} alkyl-(5- to 10-membered)- C_{2-9} heterocyclyl, wherein said aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b,

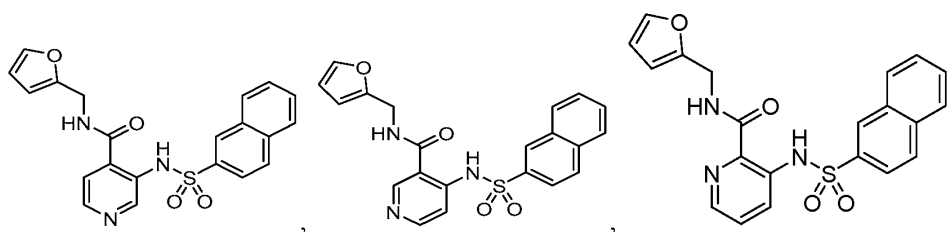
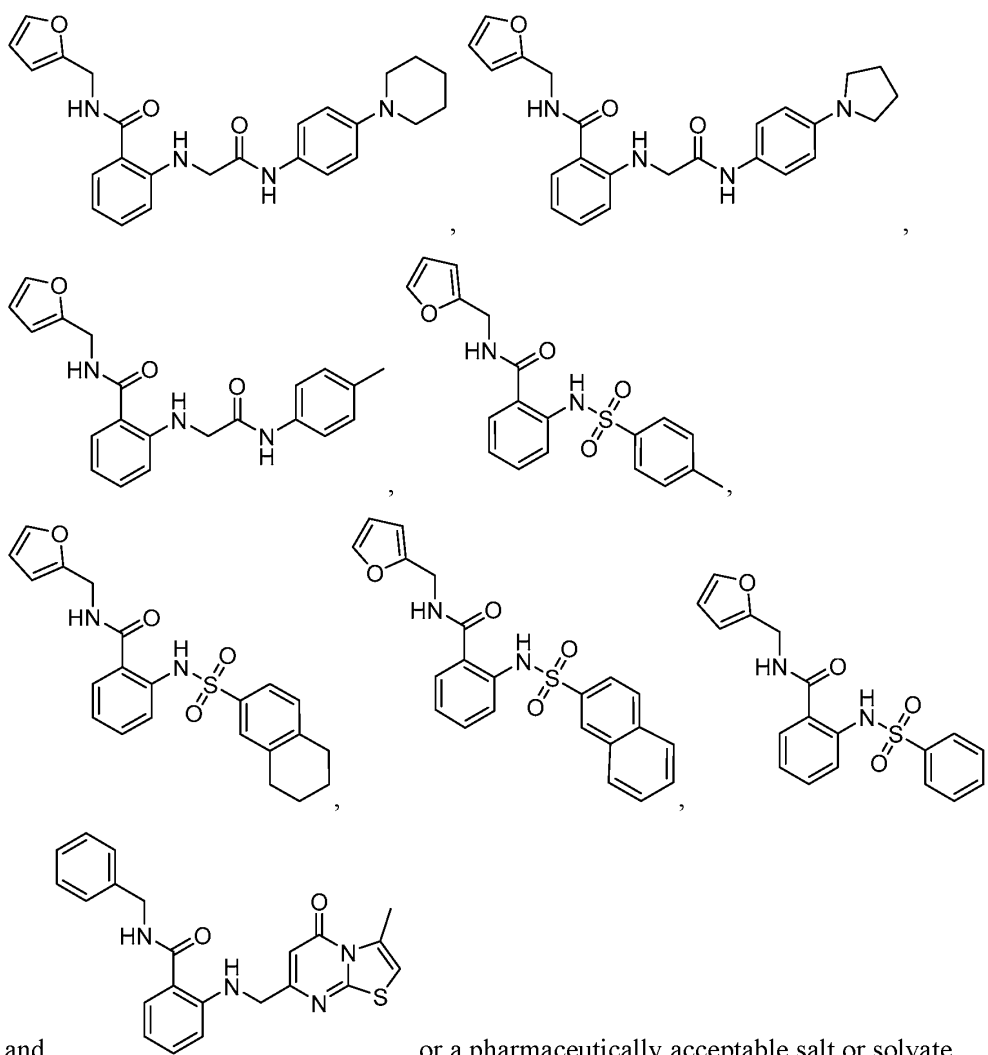
-N(Rb^a)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

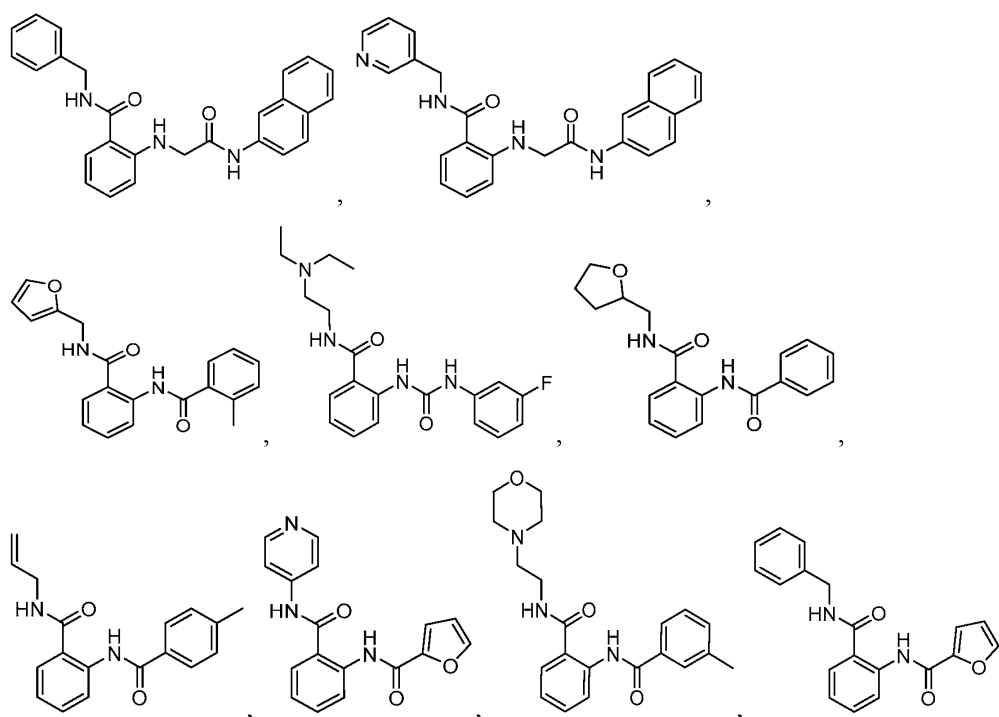
each Rb^a is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

- 10 95. The pharmaceutical composition of claim 93, wherein the compound of formula (IA) is selected from the group consisting of

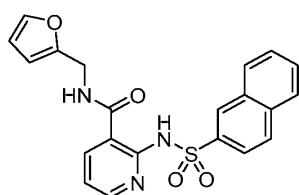






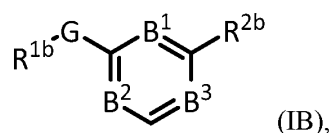


and



5 , or a pharmaceutically acceptable salt or solvate thereof.

97. A pharmaceutical composition, comprising an effective amount of a compound of formula (IB), or a pharmaceutically acceptable salt or solvate thereof, and at least one pharmaceutically acceptable excipient, wherein the compound of formula (IB) has the structure:
- 10



or a pharmaceutically acceptable salt or solvate thereof, wherein

G is -C(=O)-NH- or -NH-C(=O)-;

B¹, B², and B³ are each independently selected from the group consisting of N,
 15 CH and C(R^{3b});

each R^{3b} is independently selected from the group consisting of halogen, C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -OH, C₁₋₄ alkoxy, halo(C₁₋₄)alkoxy, and CN;

R^{1b} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -C₂₋₄ alkylene-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -C₂₋₄ alkylene-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₂₋₄ alkenyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

R^{2b} is -C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C(=O)Ra^b, -S(=O)₂Ra^b, -C(=O)-NH-Ra^b, -S(=O)₂-NH-Ra^b, -C₁₋₄ alkyl-C(=O)Ra^b, -C₁₋₄ alkyl-S(=O)₂Ra^b, or -N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl are optionally fused to a further (second) ring; or

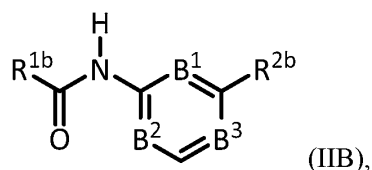
R^{2b} and R^{3b} attached to an adjacent carbon atom together form a 5- or 6-membered heterocyclic ring containing one N-atom substituted with -S(=O)₂Ra^b;

Ra^b is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and

alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

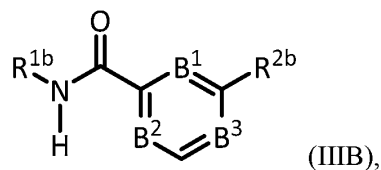
each Rb^b is independently hydrogen, -C(=O)Ra^b, -S(=O)₂Ra^b, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

98. The pharmaceutical composition of claim 97, comprising an effective amount of a compound of formula (IB) where G is -C(=O)-NH-, which is a compound of formula (IIB):



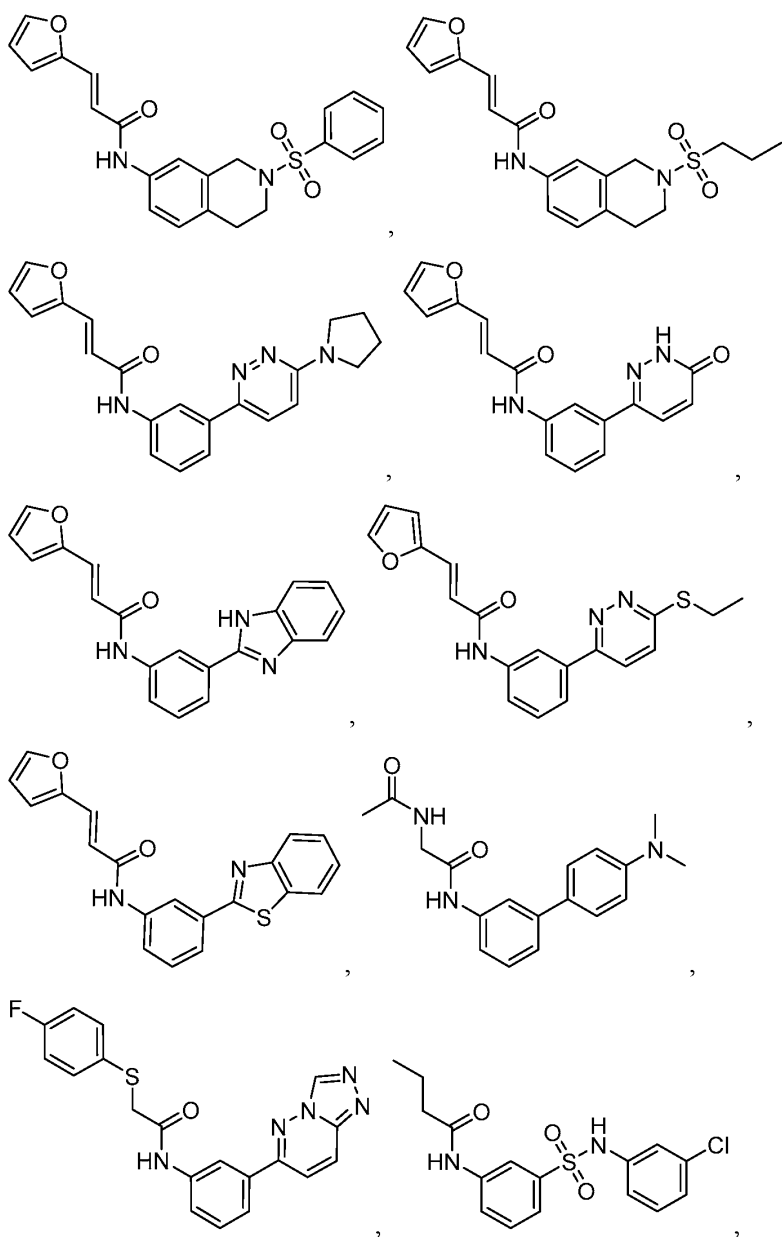
or a pharmaceutically acceptable salt or solvate thereof, wherein B¹, B², B³, R^{1b}, and R^{2b} are as defined in claim 97.

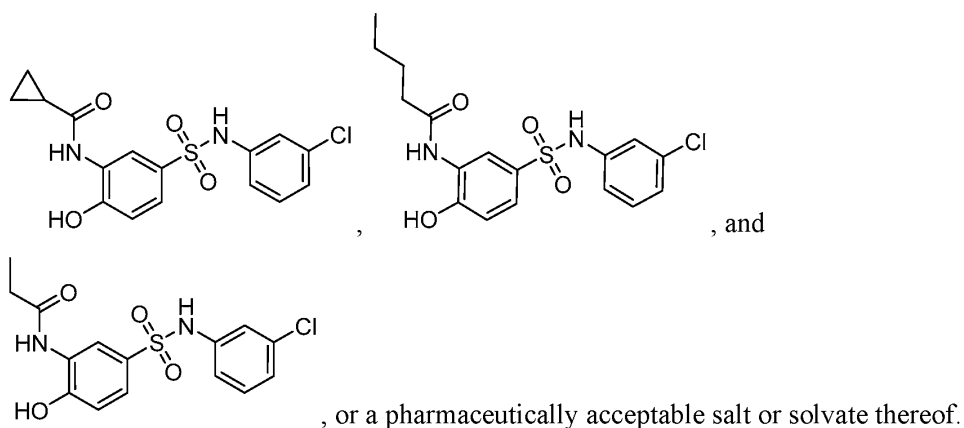
99. The pharmaceutical composition of claim 97, comprising an effective amount of a compound of formula (IB) where G is -NH-C(=O)-, which is a compound of formula (IIIB):



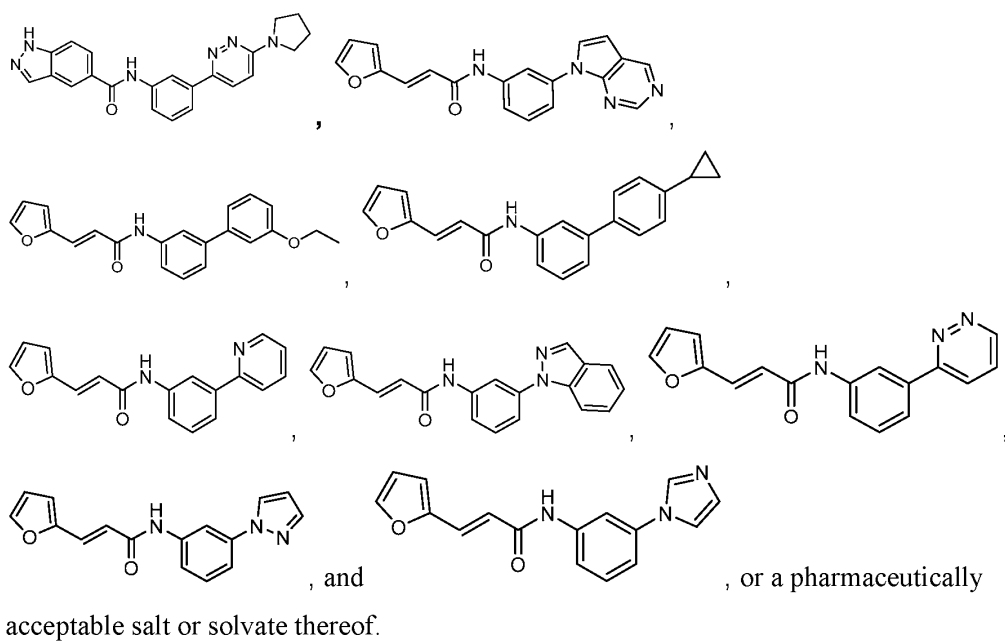
or a pharmaceutically acceptable salt or solvate thereof, wherein B¹, B², B³, R^{1b}, and R^{2b} are as defined in claim 97.

25 100. The pharmaceutical composition of claim 97 or 98, wherein the compound is selected from
the group consisting of

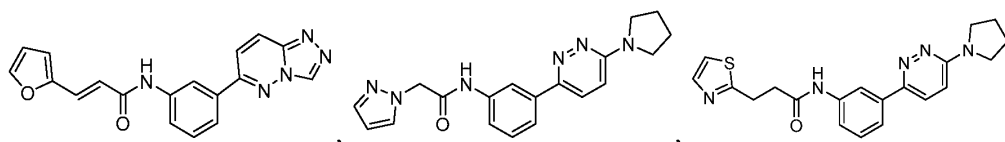


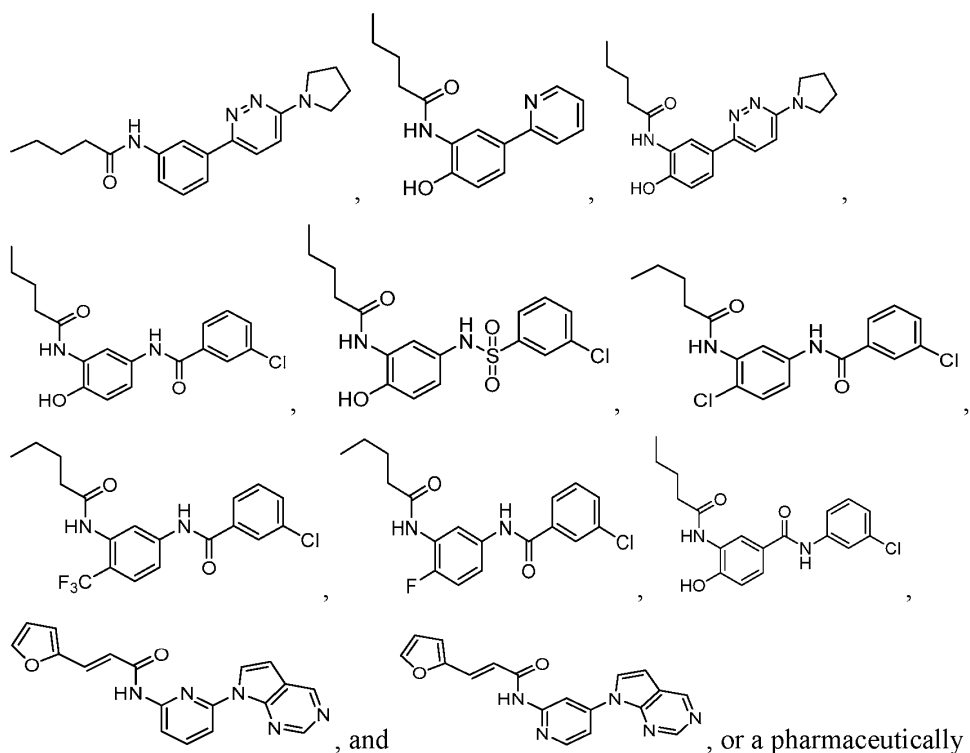


101. The pharmaceutical composition of claim 97 or 98, wherein the compound is selected from the group consisting of



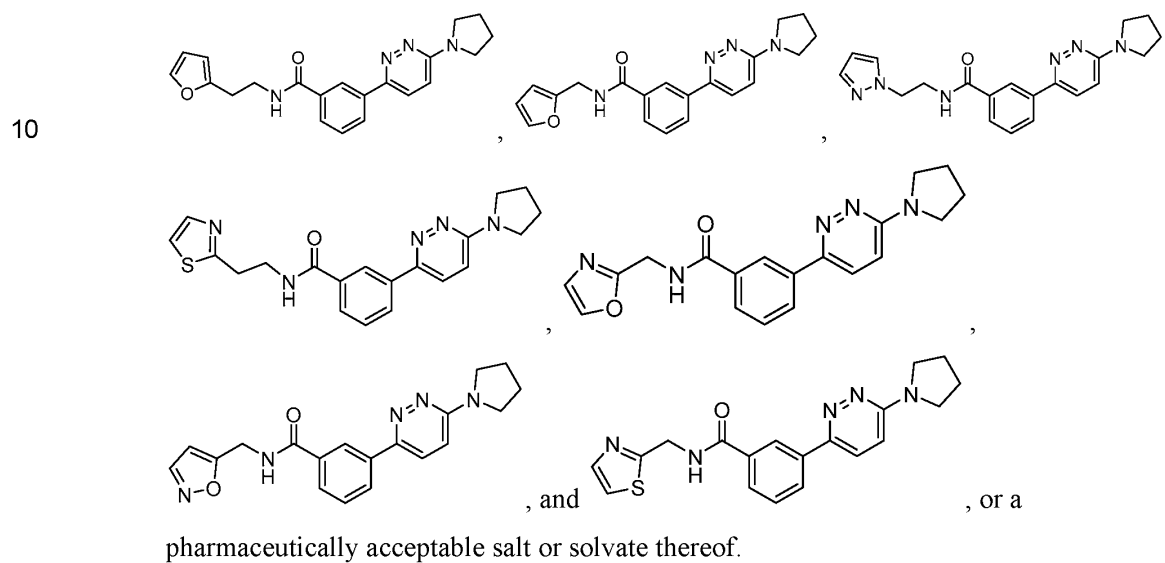
102. The pharmaceutical composition of claim 97 or 98, wherein the compound is selected from the group consisting of



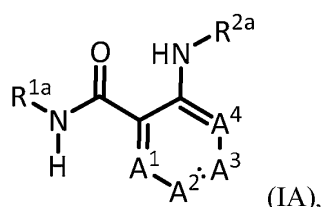


5 acceptable salt or solvate thereof.

103. The pharmaceutical composition of claim 97 or 99, wherein the compound is selected from the group consisting of



104. A compound of formula (IA):



or a pharmaceutically acceptable salt or solvate thereof, for use as a medicament, wherein

5 A^1 , A^2 , A^3 , and A^4 are each independently selected from the group consisting of N, CH and C(R^{3a});

each R^{3a} is independently selected from the group consisting of halogen, -OH, -C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and -CN;

10 R^{1a} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each
15 independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally
20 fused to a further (second) ring; and

R^{2a} is selected from the group consisting of -C₁₋₄ alkyl, -C(=O)Ra^a, -C(=O)NHRa^a, -S(=O)₂Ra^a, -C₁₋₄ alkyl-C(=O)Ra^a, -C₁₋₄ alkyl-C(=O)NHRa^a, -C₁₋₄ alkyl-C(=O)N(Ra^a)₂, -C₁₋₄ alkyl-S(=O)₂Ra^a, -C₁₋₄ alkyl-S(=O)₂-N(Ra^a)₂, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉
25 heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -C(=O)Ra^a, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄ alkyl optionally substituted

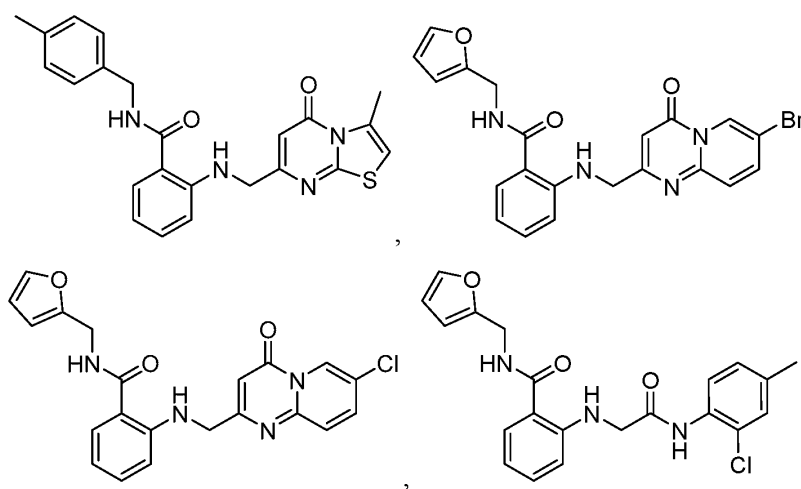
with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

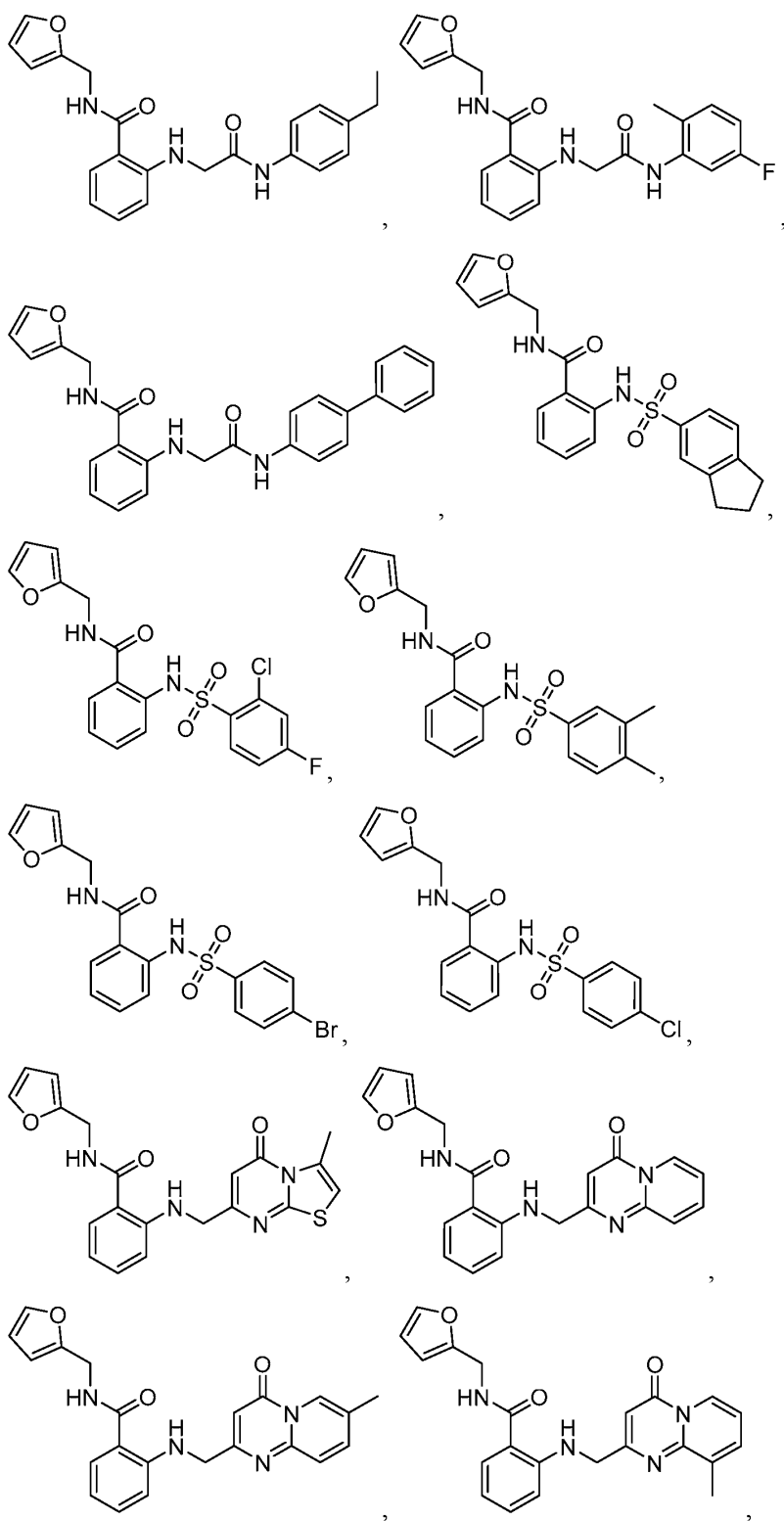
5 Ra^a is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and
10 alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, and
15 -(5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

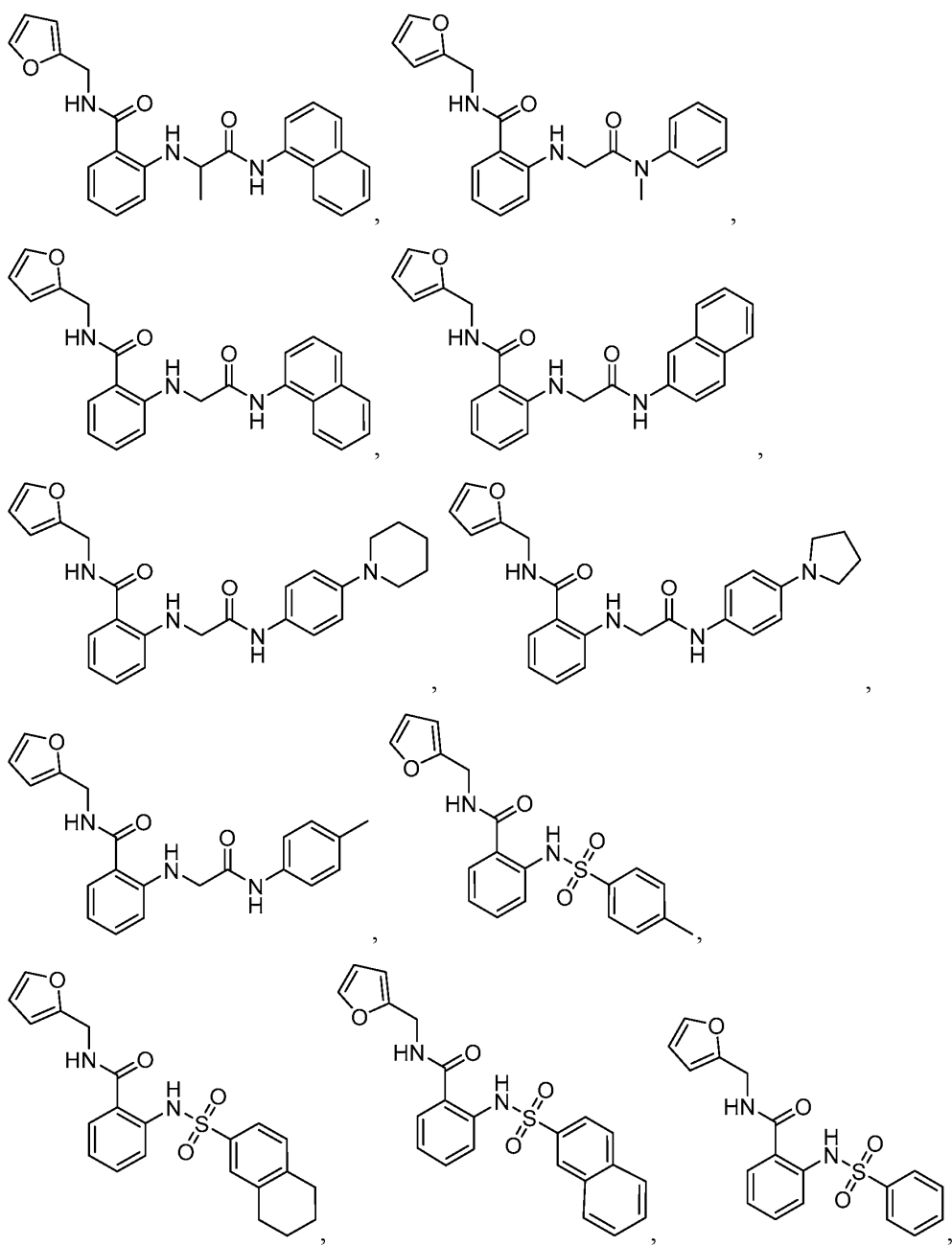
 each R^b is independently hydrogen, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, or -(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

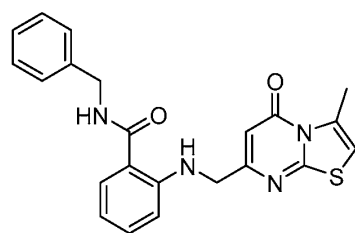
20

105. The compound for use according to claim 104, wherein the compound is selected from the group consisting of



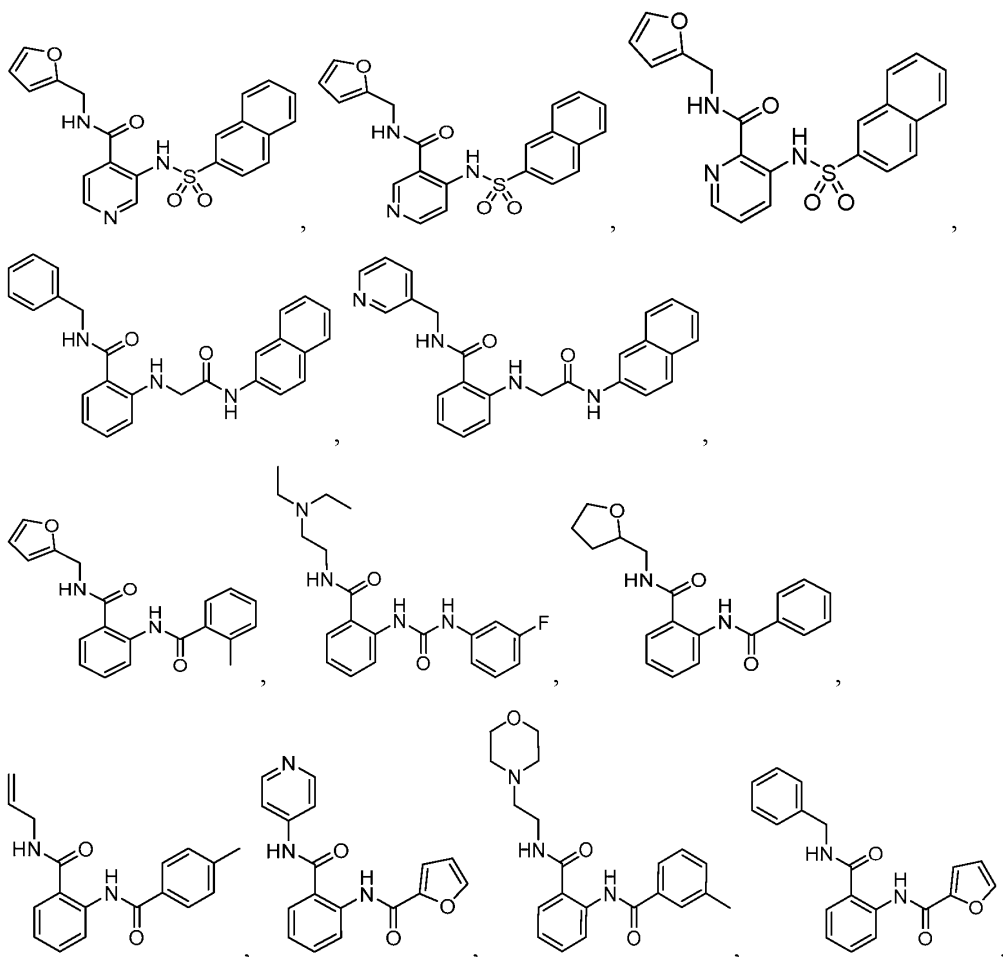




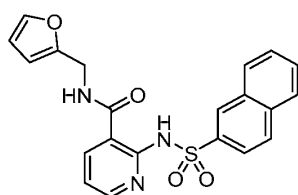


and , or a pharmaceutically acceptable salt or solvate thereof.

106. The compound for use according to claim 104, wherein the compound is selected from the group consisting of

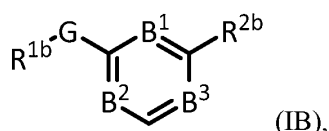


10 and



, or a pharmaceutically acceptable salt or solvate thereof.

107. A compound of formula (IB) having the structure:



5 or a pharmaceutically acceptable salt or solvate thereof, for use as a medicament, wherein

G is -C(=O)-NH- or -NH-C(=O)-;

B¹, B², and B³ are each independently selected from the group consisting of N, CH and C(R^{3b});

10 each R^{3b} is independently selected from the group consisting of halogen, C₁₋₄ alkyl, halo(C₁₋₄ alkyl), -OH, C₁₋₄ alkoxy, halo(C₁₋₄ alkoxy), and CN;

R^{1b} is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, -C₂₋₄ alkylene-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, -C₂₋₄ alkylene-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₂₋₄ alkenyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, alkenylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring;

R^{2b} is -C₆₋₁₀ aryl, -(5- to 10-membered)-C₁₋₉ heteroaryl, -C(=O)Ra^b, -S(=O)₂Ra^b, -C(=O)-NH-Ra^b, -S(=O)₂-NH-Ra^b, -C₁₋₄ alkyl-C(=O)Ra^b, -C₁₋₄ alkyl-S(=O)₂Ra^b, or

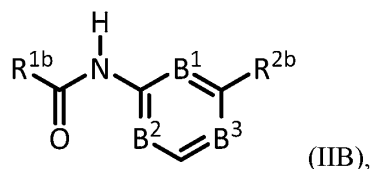
-N(R^b)₂, wherein said aryl and heteroaryl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, CN, -OR^b, -SR^b, -N(R^b)₂, (=O), -C₁₋₄alkyl optionally substituted with 1, 2, or 3 substituents each independently selected from the group consisting of halogen, CN, -OR^b, and -N(R^b)₂, optionally substituted -C₆₋₁₀ aryl, optionally substituted -(5- to 10-membered)-C₁₋₉ heteroaryl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₃₋₁₀ cycloalkyl; and wherein said aryl, heteroaryl, and heterocyclyl are optionally fused to a further (second) ring; or

R^{2b} and R^{3b} attached to an adjacent carbon atom together form a 5- or 6-membered heterocyclic ring containing one N-atom substituted with -S(=O)₂Ra^b;

Ra^b is selected from the group consisting of -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -C₁₋₄ alkyl-C₃₋₁₀ cycloalkyl, -C₆₋₁₀ aryl, -C₁₋₄ alkyl-C₆₋₁₀ aryl, (5- to 10-membered)-C₁₋₉ heteroaryl, -C₁₋₄ alkyl-(5- to 10-membered)-C₁₋₉ heteroaryl, (5- to 10-membered)-C₂₋₉ heterocyclyl, and -C₁₋₄ alkyl-(5- to 10-membered)-C₂₋₉ heterocyclyl, wherein said alkyl, cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl groups are optionally substituted with 1, 2 or 3 substituents each independently selected from the group consisting of halogen, hydroxy, -CN, -OR^b, -SR^b, -N(R^b)₂, -C₁₋₄ alkyl optionally substituted with 1, 2, or 3 halogen atoms, optionally substituted C₆₋₁₀ aryl, optionally substituted (5- to 10-membered)-C₁₋₉ heteroaryl, and (5- to 10-membered)-C₂₋₉ heterocyclyl; and wherein said cycloalkyl, alkylcycloalkyl, aryl, alkylaryl, heteroaryl, alkylheteroaryl, heterocyclyl and alkylheterocyclyl is optionally fused to a further (second) ring; and

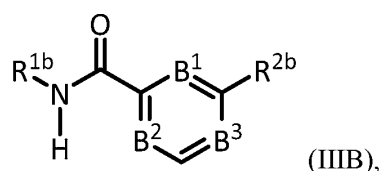
each R^b is independently hydrogen, -C(=O)Ra^b, -S(=O)₂Ra^b, -C₁₋₄ alkyl, -C₃₋₁₀ cycloalkyl, -(5- to 10-membered)-C₂₋₉ heterocyclyl, or optionally substituted -C₆₋₁₀ aryl, wherein said alkyl, cycloalkyl or heterocyclyl group is optionally substituted by 1, 2 or 3 fluorine atoms.

108. The compound for use according to claim 107, which is compound of formula (IIB):



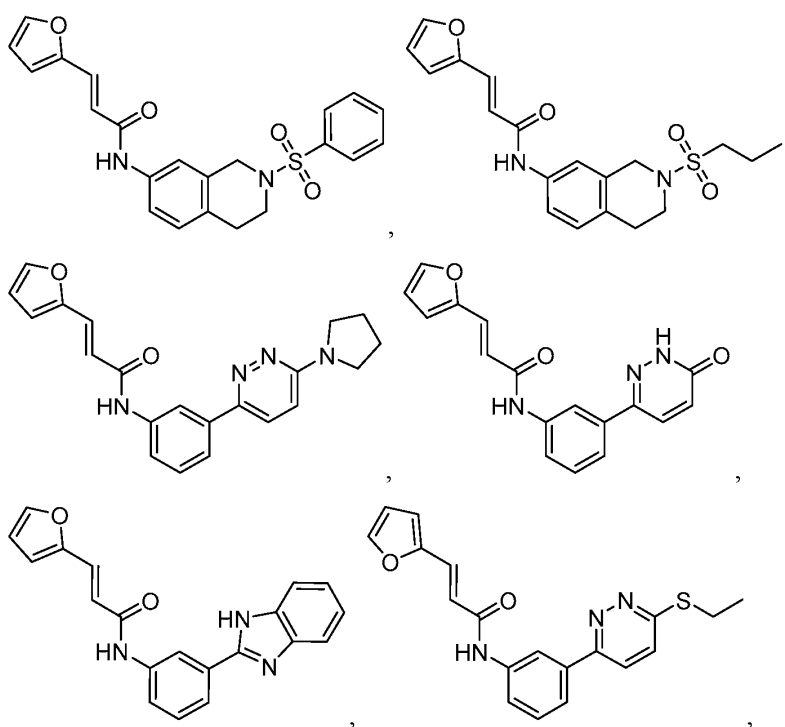
or a pharmaceutically acceptable salt or solvate thereof, wherein B^1 , B^2 , B^3 , R^{1b} , and R^{2b} are as defined in claim 107.

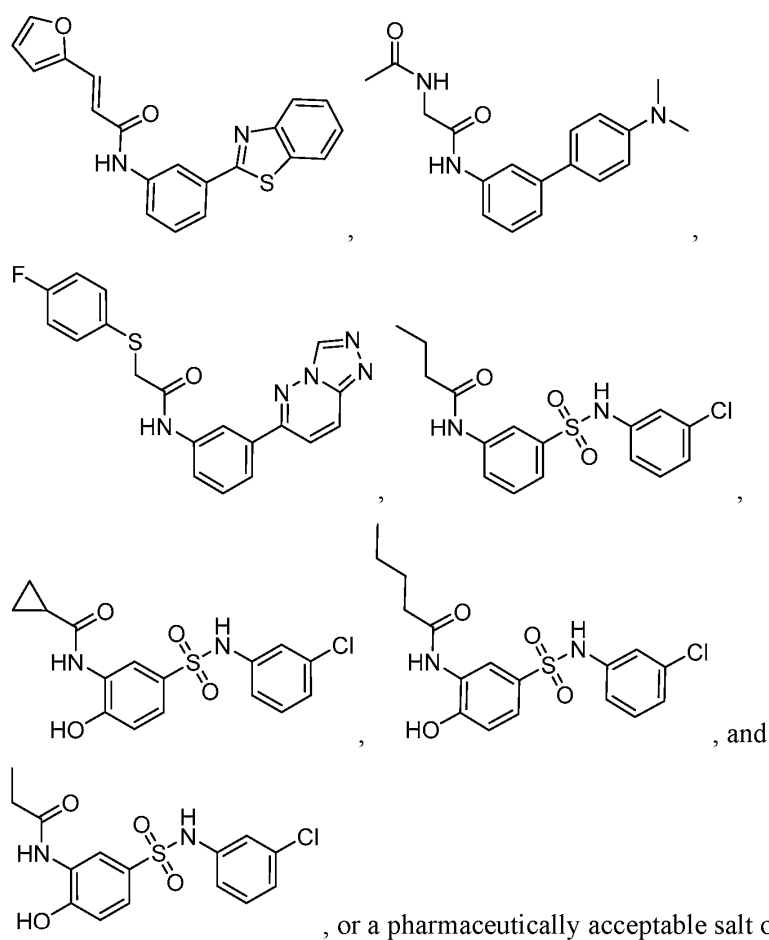
109. The compound for use according to claim 107, which is a compound of formula (IIIB):



or a pharmaceutically acceptable salt or solvate thereof, wherein B^1 , B^2 , B^3 , R^{1b} , and R^{2b} are as defined in claim 107.

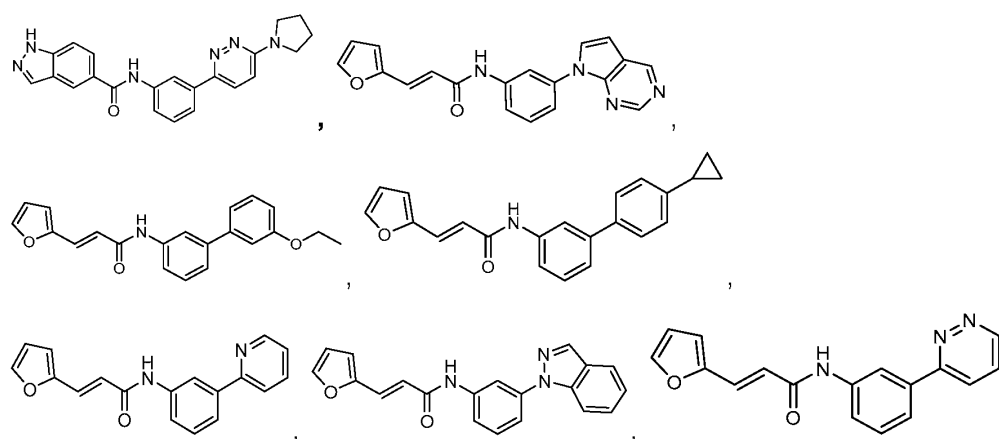
110. The compound for use according to claim 107 or 108, wherein the compound is selected from the group consisting of
- 10



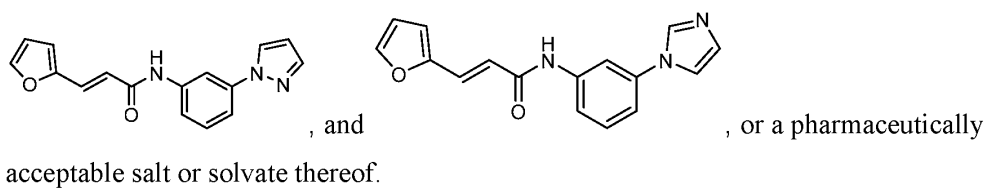


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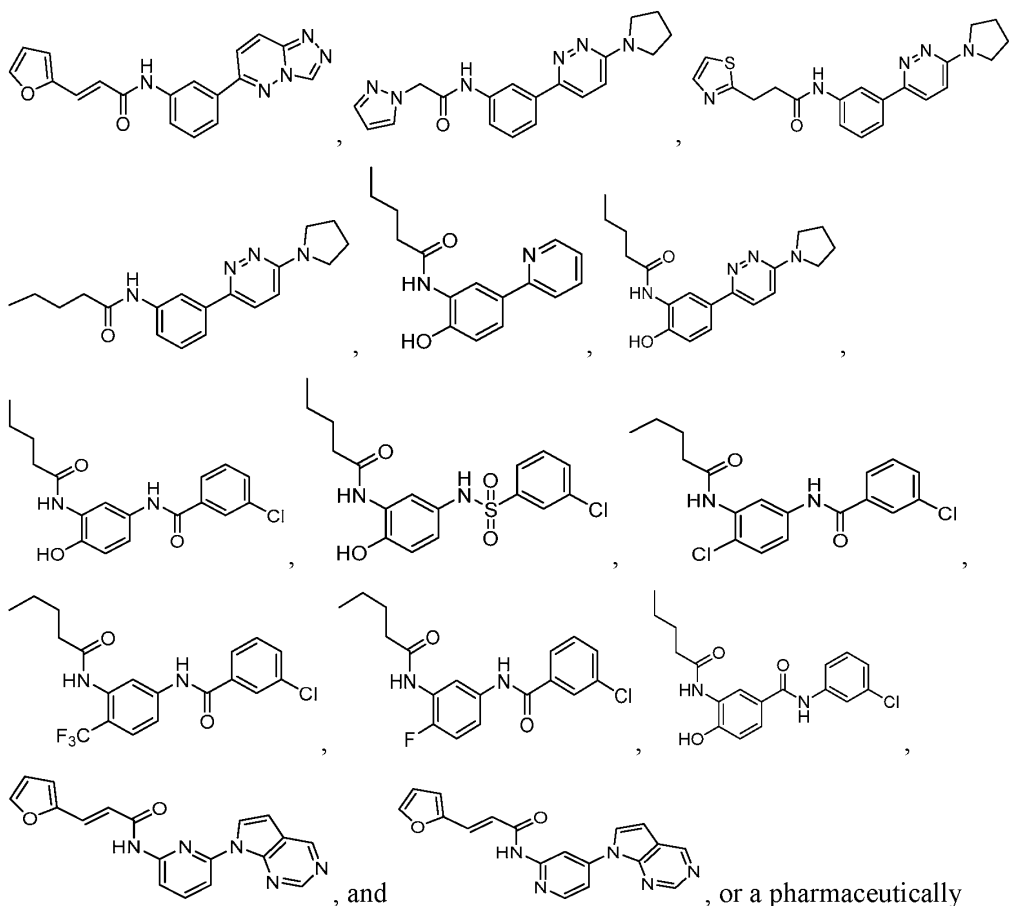
111. The compound for use according to claim 107 or 108, wherein the compound is selected from the group consisting of



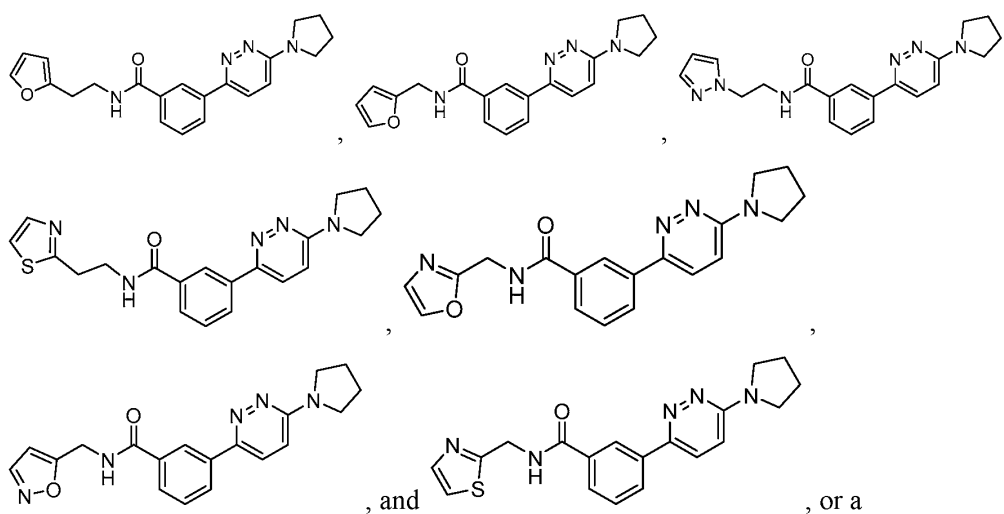
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112. The compound for use according to claim 107 or 108, wherein the compound is selected from the group consisting of



113. The compound for use according to claim 107 or 109, wherein the compound is selected from the group consisting of



, and , or a pharmaceutically acceptable salt or solvate thereof.

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114. The compound for use according to any one of claims 104-113, wherein the medicament is for use in the treatment or prevention of a lysosomal storage disease.
115. The compound ofr use according to claim 114, wherein the lysosomal storage disease is Krabbe's disease.
116. The compound for use according to any one of claims 104-113, wherein the medicament is for use in the treatment or prevention of an α -synucleinopathy.
117. The compound for use according to any one of claims 104-113, wherein the medicament is for use in the treatment or prevention of a disease or disorder selected from the group consisting of Krabbe's disease, demyelinating disorders, galactosylsphingosine related disorders, globoid cell leukodystrophy, multiple sclerosis (MS), Parkinson's disease, peripheral neuropathy, progressive multiple sclerosis, pulmonary artery enlargement in COPD, open angle glaucoma, Lewy body dementia, and multiple system atrophy (MSA).

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