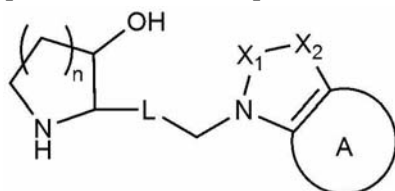


Claims

1. A compound represented by the following Chemical Formula 1, or a pharmaceutically acceptable salt thereof:

5 [Chemical Formula 1]



in Chemical Formula 1,

n is 1 or 2,

L is $-\text{CH}_2\text{CH}_2-$, $-\text{CH}=\text{C}(\text{R}')$ -, or $-\text{C}\equiv\text{C}-$,

10 wherein R' is hydrogen, C₁₋₄ alkyl, or halogen,

X₁ is CR₁R₂, NR₁, or -CO-,

X₂ is CR₃R₄, or NR₃,

15 wherein R₁ to R₄ are each independently hydrogen, C₁₋₄ alkyl, C₁₋₄ hydroxyalkyl, hydroxy, amino, carboxy, -COO(C₁₋₄ alkyl), -CONH₂, -CONH(C₁₋₄ alkyl), -CON (C₁₋₄ alkyl)₂, or pyrazolyl unsubstituted or substituted with C₁₋₄ haloalkyl; or R₁ and R₃, together with each other, links X₁ and X₂ via a double bond, and

A is benzene, pyridine, pyrimidine, or pyrimidinedione ring,

20 wherein A is unsubstituted or substituted with one to three substituents each independently selected from the group consisting of a ring-type substituent selected from the group consisting of furanyl, imidazolyl, isoxazolyl, phenyl, pyrazolyl, pyridinonyl, pyridinyl, pyrrolyl, thiazolyl, and thiophenyl; C₁₋₄ alkyl; C₁₋₄ alkoxy; C₁₋₄ haloalkyl; C₁₋₄ haloalkoxy; halogen; di(C₁₋₄ alkyl)amino; nitro; -COO(C₁₋₄ alkyl); dihydropyranyl; morpholino; piperidinyl; and pyrrolidinyl; and

25 wherein the ring-type substituent is unsubstituted or substituted with one or two substituents each independently selected from the group consisting of C₁₋₅ alkyl, C₁₋₄ haloalkyl, C₃₋₆ cycloalkyl, monovalent of C₂₋₅ alkylene carbonate, -COO(C₁₋₄ alkyl), halogen, cyano, thiazolyl, and (1,3-dioxolan-2-yl)methyl.

2. The compound or a pharmaceutically acceptable salt thereof according to claim 1,

wherein, A is unsubstituted or substituted with one to three substituents each independently selected from the group consisting of C₁₋₄ alkyl; C₁₋₄ alkoxy; C₁₋₄ haloalkyl; halogen; phenyl unsubstituted or substituted with halogen, or C₁₋₄ haloalkyl; pyrazolyl unsubstituted or substituted with C₁₋₅ alkyl, thiazolyl, or C₁₋₄ haloalkyl; thiophenyl unsubstituted or substituted with C₁₋₅ alkyl, or -COO(C₁₋₄ alkyl); pyrrolyl unsubstituted or substituted with C₁₋₅ alkyl and/or -COO(C₁₋₄ alkyl); di(C₁₋₄ alkyl)amino; morpholino; piperidiny; furanyl; and pyrrolidinyl.

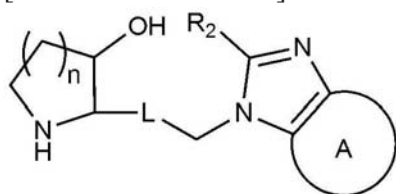
10 3. The compound or a pharmaceutically acceptable salt thereof according to claim 1,

wherein L is -CH₂CH₂-, -CH=CH-, -CH=CF-, -CH=C(CH₃)-, or -C≡C-.

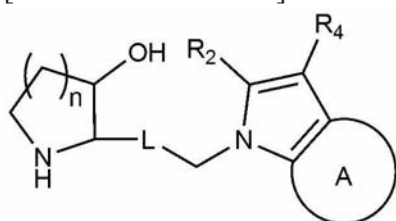
4. The compound or a pharmaceutically acceptable salt thereof according to claim 1,

15 wherein the compound represented by Chemical Formula 1 is represented by the following Chemical Formulas 1-1 to 1-5:

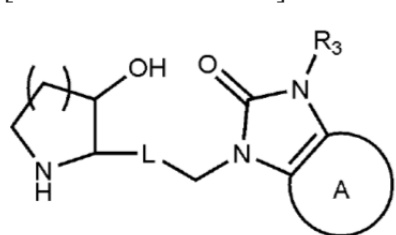
[Chemical Formula 1-1]



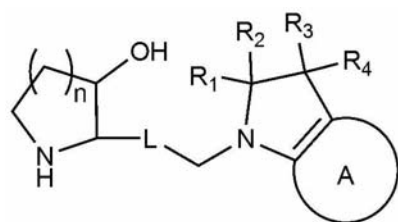
[Chemical Formula 1-2]



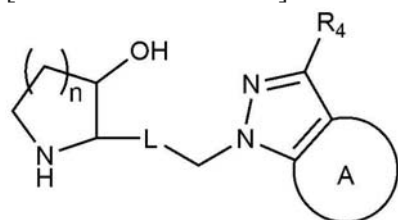
20 [Chemical Formula 1-3]



[Chemical Formula 1-4]



[Chemical Formula 1-5]



in Chemical Formulas 1-1 to 1-5,

5 n, L, R₁ to R₄ and A are as defined in claim 1.

5. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
 wherein R₁ to R₄ are each independently hydrogen, methyl, hydroxymethyl, hydroxy,
 amino, carboxy, -COOCH₃, -CONH₂, -CONHCH₃, or -CON(CH₃)₂; or R₁ and R₃, together with
 10 each other, link X₁ and X₂ via a double bond.

6. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
 wherein A is benzene, pyridine, pyrimidine, or pyrimidinedione ring, and
 A is unsubstituted or substituted with one to three substituents each independently
 15 selected from the group consisting of methyl, isobutyl, methoxy, trifluoromethyl, fluoro, chloro,
 bromo, phenyl, phenyl substituted with fluoro, phenyl substituted with chloro, phenyl substituted
 with trifluoromethyl, thiophenyl, thiophenyl substituted with methyl, thiophenyl substituted with -
 COOCH₃, pyrazolyl substituted with difluoromethyl, pyrazolyl substituted with methyl, pyrazolyl
 substituted with thiazolyl, pyrrolyl substituted with methyl and -COOCH₂CH₃, furanyl,
 20 dimethylamino, diethylamino, methylethylamino, morpholino, piperidinyl, and pyrrolidinyl.

7. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
 wherein A is benzene, and
 A is unsubstituted or substituted with one to three substituents each independently

selected from the group consisting of C₁₋₄ alkyl; C₁₋₄ alkoxy; halogen; and phenyl unsubstituted or substituted with halogen or C₁₋₄ haloalkyl.

8. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
5 wherein A is pyridine, and

A is unsubstituted or substituted with one or two substituents each independently selected from the group consisting of C₁₋₄ alkyl; C₁₋₄ alkoxy; halogen; and phenyl substituted with halogen.

- 10 9. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
wherein A is pyrimidine, and

A is substituted with a substituent selected from the group consisting of halogen; di(C₁₋₄ alkyl)amino; morpholino; piperidinyl; and pyrrolidinyl.

- 15 10. The compound or a pharmaceutically acceptable salt thereof according to claim 1,
wherein A is pyrimidinedione, and

A is unsubstituted or substituted with one or two C₁₋₄ alkyl.

- 20 11. A compound or a pharmaceutically acceptable salt thereof,
wherein the compound is selected from the group consisting of:

- 1) (2R,3S)-2-(3-(6-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 2) (2R,3S)-2-(3-(4-bromo-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 3) (2R,3S)-2-(3-(5-bromo-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 4) (2R,3S)-2-(3-(6-bromo-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 5) (2R,3S)-2-(3-(7-bromo-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 6) (2R,3S)-2-(3-(4-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 7) (2R,3S)-2-(3-(5-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 8) (2R,3S)-2-(3-(6-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 9) (2R,3S)-2-(3-(7-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30 10) (2R,3S)-2-(3-(4-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,

- 11) (2R,3S)-2-(3-(5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 12) (2R,3S)-2-(3-(7-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 13) (2R,3S)-2-(3-(6-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 14) (2R,3S)-2-(3-(5-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 15) (2R,3S)-2-(3-(6-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 16) (2R,3S)-2-(3-(7-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 17) (2R,3S)-2-(3-(7-(trifluoromethoxy)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 18) (2R,3S)-2-(3-(4-(pyrrolidin-1-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 19) (2R,3S)-2-(3-(4-(piperidin-1-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 15 20) (2R,3S)-2-(3-(4-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 21) (2R,3S)-2-(3-(4-(3-chlorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 22) (2R,3S)-2-(3-(5-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 23) (2R,3S)-2-(3-(6-(2-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 24) (2R,3S)-2-(3-(6-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 25) (2R,3S)-2-(3-(6-(4-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 26) (2R,3S)-2-(3-(7-(2-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 27) (2R,3S)-2-(3-(7-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30

- 28) (2R,3S)-2-(3-(7-(4-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 29) (2R,3S)-2-(3-(5-(1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 30) (2R,3S)-2-(3-(6-(1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 31) (2R,3S)-2-(3-(7-(1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 32) (2R,3S)-2-(3-(6-chloro-5-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 33) (2R,3S)-2-(3-(6-bromo-5-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 34) (2R,3S)-2-(3-(5-chloro-6-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 15 35) (2R,3S)-2-(3-(5-bromo-6-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 36) (2R,3S)-2-(3-(6-bromo-5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 37) (2R,3S)-2-(3-(6-chloro-5-methoxy-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 38) (2R,3S)-2-(3-(6-fluoro-5-methoxy-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 39) (2R,3S)-2-(3-(5-fluoro-6-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 40) (2R,3S)-2-(3-(4,5-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 41) (2S,3S)-2-(3-(4,5-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 42) (2S,3R)-2-(3-(4,5-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 43) (2R,3R)-2-(3-(4,5-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 44) (2R,3S)-2-(3-(4-chloro-5-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30 ol,

- 45) (2R,3S)-2-(3-(5-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 46) (2R,3S)-2-(3-(5-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 47) (2R,3S)-2-(3-(5-bromo-4-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 48) (2R,3S)-2-(3-(6-bromo-7-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 49) (2R,3S)-2-(3-(4,5-difluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 50) (2R,3S)-2-(3-(6,7-difluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 51) (2R,3S)-2-(3-(4,5-dimethyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 52) (2R,3S)-2-(3-(5,6-difluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 53) (2R,3S)-2-(3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 54) (2R,3S)-2-(3-(5,6-dibromo-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 15 55) (2R,3S)-2-(3-(5,6-dimethyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 56) (2R,3S)-2-(3-(6,7-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 57) (2R,3S)-2-(3-(4,6-difluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 58) (2R,3S)-2-(3-(5,7-difluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 59) (2R,3S)-2-(3-(4-chloro-5-methoxy-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 60) (2R,3S)-2-(3-(7-chloro-6-methoxy-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 61) (2R,3S)-2-(3-(6-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 62) (2R,3S)-2-(3-(4-chloro-5-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 63) (2R,3S)-2-(3-(6-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 64) (2R,3S)-2-(3-(5-fluoro-4-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30

- 65) (2R,3S)-2-(3-(6-fluoro-7-methyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 66) (2R,3S)-2-(3-(4-chloro-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 67) (2R,3S)-2-(3-(7-chloro-6-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 68) methyl 7-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazole-5-carboxylate,
- 69) (2R,3S)-2-(3-(7-bromo-5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 70) (2R,3S)-2-(3-(5-bromo-7-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 71) (2R,3S)-2-(3-(7-bromo-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 15 72) (2R,3S)-2-(3-(6-bromo-4-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 73) (2R,3S)-2-(3-(5-bromo-7-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 74) (2R,3S)-2-(3-(7-chloro-4-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 75) (2R,3S)-2-(3-(5-bromo-4-nitro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 76) (2R,3S)-2-(3-(6-bromo-7-nitro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 77) (2R,3S)-2-(3-(4-chloro-5-nitro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 78) (2R,3S)-2-(3-(7-chloro-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 79) (2R,3S)-2-(3-(5-chloro-7-fluoro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 80) (2R,3S)-2-(3-(5,7-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 81) (2R,3S)-2-(3-(5-chloro-7-(1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30

- 82) (2R,3S)-2-(3-(7-(1H-pyrazol-4-yl)-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 83) (2R,3S)-2-(3-(5-chloro-7-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 84) (2R,3S)-2-(3-(7-(3-fluorophenyl)-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 85) (2R,3S)-2-(3-(5-chloro-7-(2-methylthiazol-5-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 86) (2R,3S)-2-(3-(5-chloro-7-(pyridin-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 87) (2R,3S)-2-(3-(5-chloro-7-(5-fluoropyridin-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 88) 5-(5-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-7-yl)-1-methylpyridin-2(1H)-one,
- 15 89) (2R,3S)-2-(3-(5-chloro-7-(1-(difluoromethyl)-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 90) (2R,3S)-2-(3-(5-chloro-7-(isoxazol-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 91) (2R,3S)-2-(3-(5-chloro-7-(thiophen-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 92) (2R,3S)-2-(3-(5-chloro-7-(2-methylthiophen-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 93) (2R,3S)-2-(3-(5-chloro-7-(3,5-dimethylisoxazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 94) (2R,3S)-2-(3-(5-chloro-7-(3,6-dihydro-2H-pyran-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 95) (2R,3S)-2-(3-(7-(1-((1,3-dioxolan-2-yl)methyl)-1H-pyrazol-4-yl)-5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 96) (2R,3S)-2-(3-(5-chloro-7-(1-methyl-1H-imidazol-5-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 30

- 97) (2R,3S)-2-(3-(5-chloro-7-(1-methyl-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 98) (2R,3S)-2-(3-(7-(pyrrolidin-1-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 99) (2R,3S)-2-(3-(5-chloro-7-(pyrrolidin-1-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 100) (2R,3S)-2-(3-(5-chloro-7-(2-cyclopropylthiazol-5-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 101) (2R,3S)-2-(3-(5-chloro-7-(1-(thiazol-2-yl)-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 10 102) (2R,3S)-2-(3-(5-chloro-7-(1-(oxetan-3-yl)-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 103) (2R,3S)-2-(3-(5-chloro-7-(2-(tetrahydro-2H-pyran-4-yl)thiazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 15 104) (2R,3S)-2-(3-(5-chloro-7-(furan-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 105) 4-(5-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-7-yl)thiazole-2-carbonitrile,
- 106) (2R,3S)-2-(3-(7-(1-(tert-butyl)-1H-pyrazol-4-yl)-5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 107) (2R,3S)-2-(3-(5-chloro-7-(1-isopentyl-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 108) (2R,3S)-2-(3-(5-chloro-7-(1-isopropyl-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 25 109) (2R,3S)-2-(3-(5-chloro-7-(4-methylthiophen-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 110) ethyl 3-(5-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-7-yl)furan-2-carboxylate,
- 111) methyl 4-(5-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-7-yl)thiophene-2-carboxylate,
- 30

- 112) (2R,3S)-2-(3-(5-chloro-7-(1-(2-fluoroethyl)-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 113) (2R,3S)-2-(3-(7-(1-butyl-1H-pyrazol-4-yl)-5-chloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 5 114) (2R,3S)-2-(3-(5-chloro-7-(2,5-dimethylthiophen-3-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 115) (2R,3S)-2-(3-(5-chloro-7-(1-isobutyl-1H-pyrazol-4-yl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 116) ethyl 4-(5-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-7-yl)-1-methyl-1H-pyrrole-2-carboxylate,
- 10 117) (2R,3S)-2-(3-(5-chloro-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 118) (2R,3S)-2-(3-(5-chloro-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 119) (2R,3S)-2-(3-(5-bromo-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 120) (2R,3S)-2-(3-(6-bromo-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 15 121) (2R,3S)-2-(3-(5-methyl-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 122) (2R,3S)-2-(3-(6-chloro-1H-imidazo[4,5-c]pyridin-1-yl)propyl)piperidin-3-ol,
- 123) (2R,3S)-2-(3-(6-chloro-3H-imidazo[4,5-c]pyridin-3-yl)propyl)piperidin-3-ol,
- 124) (2R,3S)-2-(3-(6-bromo-1H-imidazo[4,5-c]pyridin-1-yl)propyl)piperidin-3-ol,
- 125) (2R,3S)-2-(3-(6-bromo-3H-imidazo[4,5-c]pyridin-3-yl)propyl)piperidin-3-ol,
- 20 126) (2R,3S)-2-(3-(7-chloro-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 127) (2R,3S)-2-(3-(5,6-dichloro-1H-imidazo[4,5-b]pyridin-1-yl)propyl)piperidin-3-ol,
- 128) (2R,3S)-2-(3-(7-bromo-1H-imidazo[4,5-c]pyridin-1-yl)propyl)piperidin-3-ol,
- 129) (2R,3S)-2-(3-(5-(trifluoromethyl)-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 25 130) (2R,3S)-2-(3-(6,7-dichloro-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 131) (2R,3S)-2-(3-(6-chloro-7-methyl-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 132) (2R,3S)-2-(3-(6-bromo-7-methyl-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 30 133) (2R,3S)-2-(3-(6-bromo-7-chloro-3H-imidazo[4,5-b]pyridin-3-

- yl)propyl)piperidin-3-ol,
- 134) (2R,3S)-2-(3-(7-chloro-6-(3-chlorophenyl)-3H-imidazo[4,5-b]pyridin-3-yl)propyl)piperidin-3-ol,
- 135) (2R,3S)-2-(3-(2-chloro-7H-purin-7-yl)propyl)piperidin-3-ol,
- 5 136) (2R,3S)-2-(3-(2-chloro-9H-purin-9-yl)propyl)piperidin-3-ol,
- 137) (2R,3S)-2-(3-(6-(dimethylamino)-9H-purin-9-yl)propyl)piperidin-3-ol,
- 138) (2R,3S)-2-(3-(6-(diethylamino)-9H-purin-9-yl)propyl)piperidin-3-ol,
- 139) (2R,3S)-2-(3-(6-(ethyl(methyl)amino)-9H-purin-9-yl)propyl)piperidin-3-ol,
- 140) (2R,3S)-2-(3-(6-morpholino-9H-purin-9-yl)propyl)piperidin-3-ol,
- 10 141) (2R,3S)-2-(3-(6-(piperidin-1-yl)-9H-purin-9-yl)propyl)piperidin-3-ol,
- 142) (2R,3S)-2-(3-(6-(pyrrolidin-1-yl)-9H-purin-9-yl)propyl)piperidin-3-ol,
- 143) 1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-2-ol,
- 144) 5,6-dichloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-2-ol,
- 15 145) (2R,3S)-2-(3-(2-(hydroxymethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 146) (2R,3S)-2-(3-(2-(hydroxymethyl)-4,5-dimethyl-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 147) (2R,3S)-2-(3-(5,6-dichloro-2-(hydroxymethyl)-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 20 148) (2R,3S)-2-(3-(2-amino-5,6-dichloro-1H-benzo[d]imidazol-1-yl)propyl)piperidin-3-ol,
- 149) methyl 7-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 25 150) methyl 5-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 151) methyl 6-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 152) methyl 4-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 30

- 153) methyl 6-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 154) methyl 7-chloro-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-indole-3-carboxylate,
- 5 155) (2R,3S)-2-(3-(5-chloro-3-cyclopropyl-1H-indazol-1-yl)propyl)piperidin-3-ol,
- 156) (2R,3S)-2-(3-(5-chloro-3-(trifluoromethyl)-1H-indazol-1-yl)propyl)piperidin-3-ol,
- 157) (2R,3S)-2-(3-(5-chloro-3-(1-(difluoromethyl)-1H-pyrazol-4-yl)-1H-indazol-1-yl)propyl)piperidin-3-ol,
- 10 158) (2R,3S)-2-(3-(6-chloro-3-(1-(difluoromethyl)-1H-pyrazol-4-yl)-1H-indazol-1-yl)propyl)piperidin-3-ol,
- 159) 1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-3-methyl-1H-benzo[d]imidazol-2(3H)-one,
- 160) 5-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-15 2(3H)-one,
- 161) 6-bromo-1-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1H-benzo[d]imidazol-2(3H)-one,
- 162) 7-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1,3-dimethyl-1H-purine-2,6(3H,7H)-dione,
- 20 163) 7-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-3-methyl-1H-purine-2,6(3H,7H)-dione,
- 164) 9-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-1-methyl-1H-purine-2,6(3H,9H)-dione,
- 165) 7-(3-((2R,3S)-3-hydroxypiperidin-2-yl)propyl)-3-isobutyl-1-methyl-1H-purine-25 2,6(3H,7H)-dione,
- 166) (2R,3S)-2-((E)-3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 167) (2R,3S)-2-((E)-3-(5-fluoro-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 30 168) (2R,3S)-2-((E)-3-(5-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-

- enyl)piperidin-3-ol,
- 169) (2R,3S)-2-((E)-3-(5,6-dimethyl-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 170) (2R,3S)-2-((E)-3-(5,6-dibromo-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 171) (2R,3S)-2-((E)-3-(5,6-difluoro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 172) (2R,3S)-2-((E)-3-(4,5-dimethyl-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 173) (2R,3S)-2-((E)-3-(5-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 174) (2R,3S)-2-((E)-3-(4,5-dichloro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 175) (2R,3S)-2-((E)-3-(4-chloro-5-methyl-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 176) (2R,3S)-2-((E)-3-(5-bromo-4-nitro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 177) (2R,3S)-2-((E)-3-(6-bromo-7-nitro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 178) (2R,3S)-2-((E)-3-(4-chloro-5-nitro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 179) (2R,3S)-2-((E)-3-(4,6-difluoro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 180) (2R,3S)-2-((E)-3-(6-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 181) (2R,3S)-2-((E)-3-(7-chloro-5-(trifluoromethyl)-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 182) (2R,3S)-2-((E)-3-(5,7-dichloro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,
- 183) (2R,3S)-2-((E)-3-(5-chloro-7-fluoro-1H-benzo[d]imidazol-1-yl)prop-1-en-1-yl)piperidin-3-ol,

- yl)piperidin-3-ol,
- 184) (2R,3S)-2-((E)-3-(5-bromo-1H-imidazo[4,5-b]pyridin-1-yl)prop-1-enyl)piperidin-3-ol,
- 185) (2R,3S)-2-((E)-3-(7-chloro-6-(3-chlorophenyl)-3H-imidazo[4,5-b]pyridin-3-yl)prop-1-enyl)piperidin-3-ol,
- 186) (2R,3S)-2-((E)-3-(6-bromo-7-methyl-3H-imidazo[4,5-b]pyridin-3-yl)prop-1-enyl)piperidin-3-ol,
- 187) (2R,3S)-2-((E)-3-(6-bromo-7-chloro-3H-imidazo[4,5-b]pyridin-3-yl)prop-1-enyl)piperidin-3-ol,
- 188) (2R,3S)-2-((E)-3-(6-chloro-7-methyl-3H-imidazo[4,5-b]pyridin-3-yl)prop-1-enyl)piperidin-3-ol,
- 189) (2R,3S)-2-((E)-3-(6,7-dichloro-3H-imidazo[4,5-b]pyridin-3-yl)prop-1-enyl)piperidin-3-ol,
- 190) (2R,3S)-2-((E)-3-(6-(3-chlorophenyl)-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 191) (2R,3S)-2-((E)-3-(6-(3-fluorophenyl)-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 192) (2R,3S)-2-((E)-3-(6-(3-(trifluoromethyl)phenyl)-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 193) (2R,3S)-2-((E)-3-(5-bromo-6,7-difluoro-2-methyl-1H-benzo[d]imidazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 194) (2R,3S)-2-((E)-3-(indolin-1-yl)prop-1-enyl)piperidin-3-ol,
- 195) (2R,3S)-2-((E)-3-(5-chloroindolin-1-yl)prop-1-enyl)piperidin-3-ol,
- 196) (2R,3S)-2-((E)-3-(1H-pyrrolo[2,3-b]pyridin-1-yl)prop-1-enyl)piperidin-3-ol,
- 197) (2R,3S)-2-((E)-3-(6-chloro-1H-indol-1-yl)prop-1-enyl)piperidin-3-ol,
- 198) (2R,3S)-2-((E)-3-(6-chloro-1H-indazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 199) (2R,3S)-2-((E)-3-(4-chloro-7H-pyrrolo[2,3-d]pyrimidin-7-yl)prop-1-enyl)piperidin-3-ol,
- 200) (2R,3S)-2-((E)-3-(5-chloro-1H-pyrazolo[3,4-b]pyridin-1-yl)prop-1-enyl)piperidin-3-ol,

- 201) (2R,3S)-2-((E)-3-(3,5-dimethyl-1H-indazol-1-yl)prop-1-enyl)piperidin-3-ol,
- 202) methyl 7-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 203) 7-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 204) 5-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 205) 4-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 10 206) 6-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 207) 7-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 208) 6-fluoro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 15 209) 1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylic acid,
- 210) methyl 4-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 211) methyl 6-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 20 212) methyl 7-chloro-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 213) methyl 5-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 25 214) methyl 6-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-1H-indole-3-carboxylate,
- 215) 5-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-N-methyl-1H-indole-3-carboxamide,
- 216) 5-bromo-1-((E)-3-((2R,3S)-3-hydroxypiperidin-2-yl)allyl)-N,N-dimethyl-1H-indole-3-carboxamide,
- 30

- 217) (2R,3S)-2-((Z)-3-(5-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)-2-fluoroprop-1-enyl)piperidin-3-ol,
- 218) (2R,3S)-2-((Z)-3-(5-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)-2-fluoroprop-1-enyl)piperidin-3-ol,
- 5 219) (2R,3S)-2-((Z)-3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)-2-fluoroprop-1-enyl)piperidin-3-ol,
- 220) (2R,3S)-2-((Z)-3-(5,6-dichloro-2-(hydroxymethyl)-1H-benzo[d]imidazol-1-yl)-2-fluoroprop-1-enyl)piperidin-3-ol,
- 221) (2R,3S)-2-((E)-3-(5-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)-2-methylprop-1-enyl)piperidin-3-ol,
- 10 222) (2R,3S)-2-((E)-3-(5-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)-2-methylprop-1-enyl)piperidin-3-ol,
- 223) (2R,3S)-2-((E)-3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)-2-methylprop-1-enyl)piperidin-3-ol,
- 15 224) (2R,3S)-2-((E)-3-(5,6-dichloro-2-(hydroxymethyl)-1H-benzo[d]imidazol-1-yl)-2-methylprop-1-enyl)piperidin-3-ol,
- 225) (2R,3S)-2-(3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)prop-1-ynyl)piperidin-3-ol,
- 226) (2R,3S)-2-(3-(5-bromo-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-ynyl)piperidin-3-ol,
- 20 227) (2R,3S)-2-(3-(5-chloro-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-ynyl)piperidin-3-ol,
- 228) (2R,3S)-2-(3-(5,6-dibromo-1H-benzo[d]imidazol-1-yl)prop-1-ynyl)piperidin-3-ol,
- 25 229) (2R,3S)-2-(3-(5-fluoro-4-methyl-1H-benzo[d]imidazol-1-yl)prop-1-ynyl)piperidin-3-ol, and
- 230) (2R,3S)-2-((E)-3-(5,6-dichloro-1H-benzo[d]imidazol-1-yl)prop-1-enyl)pyrrolidin-3-ol.

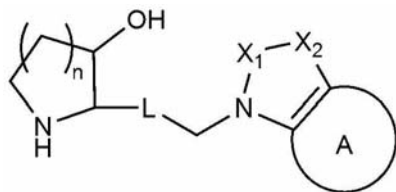
12. A pharmaceutical composition for the prevention or treatment of cancers, inflammatory diseases, autoimmune diseases or fibrosis, comprising the compound according to any one of claims 1 to 11 or a pharmaceutically acceptable salt thereof.

5 13. A method for preparing a compound represented by the following Chemical Formula 1 comprising the steps of:

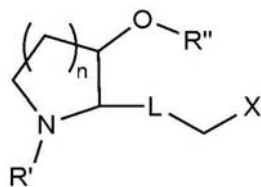
reacting a compound represented by the following Chemical Formula 1-A with a compound represented by the following Chemical Formula 1-B in the presence of a base to prepare a compound represented by the following Chemical Formula 1-C; and

10 reacting a compound represented by the Chemical Formula 1-C in the presence of an acid to prepare a compound represented by the following Chemical Formula 1:

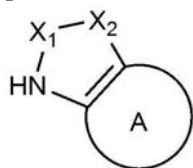
[Chemical Formula 1]



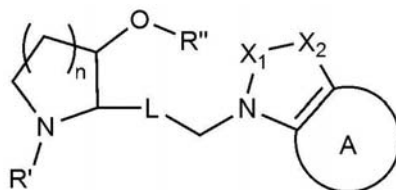
[Chemical Formula 1-A]



[Chemical Formula 1-B]



[Chemical Formula 1-C]



20 in Chemical Formulas 1, 1-A, 1-B, and 1-C,
n, L, X₁, X₂ and A are as defined in claim 1,

X is halogen, and

R' and R'' are each independently a protecting group.

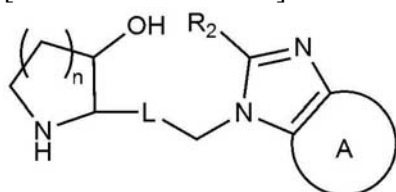
14. A method for preparing a compound represented by the following Chemical Formula 1-1 comprising the steps of:

reacting a compound represented by the following Chemical Formula 2-A with a compound represented by the following Chemical Formula 2-B in the presence of a base to prepare a compound represented by the following Chemical Formula 2-C;

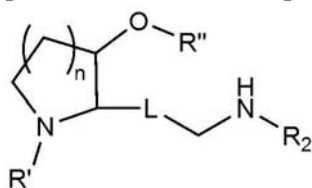
- reacting an amine group and a nitro group of the compound represented by the Chemical Formula 2-C to form a ring, thereby preparing a compound represented by the following Chemical Formula 2-D; and

reacting a compound represented by the Chemical Formula 2-D in the presence of an acid to prepare a compound represented by the following Chemical Formula 1-1:

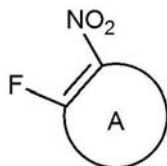
[Chemical Formula 1-1]



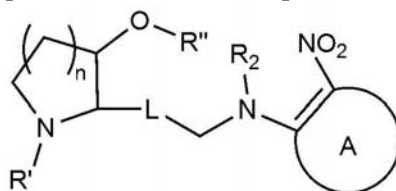
[Chemical Formula 2-A]



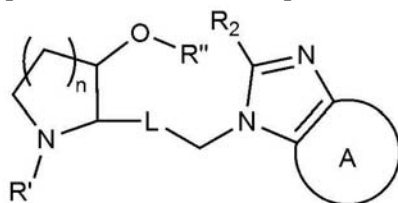
[Chemical Formula 2-B]



[Chemical Formula 2-C]



[Chemical Formula 2-D]



in Chemical Formulas 1-1, 2-A, 2-B, 2-C, and 2-D,

n, L, R₂ and A are as defined in claim 1, and

5 R' and R'' are each independently a protecting group.

15. A method for preparing a compound represented by the following Chemical Formula 3 comprising the steps of:

reacting the compound represented by the following Chemical Formula 3-A with
10 (carbethoxymethylene)triphenylphosphorane to prepare a compound represented by the following Chemical Formula 3-B;

hydrogenating the compound represented by the following Chemical Formula 3-B to prepare a compound represented by the following Chemical Formula 3-C;

hydrolyzing the compound represented by the Chemical Formula 3-C to prepare a
15 compound represented by the following Chemical Formula 3-D;

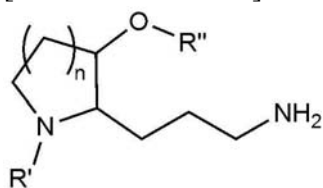
subjecting the compound represented by the Chemical Formula 3-D to a carbonyl reduction reaction to prepare a compound represented by the following Chemical Formula 3-E;

brominating the compound represented by the Chemical Formula 3-E to prepare a compound represented by the following Chemical Formula 3-F;

20 subjecting the compound represented by the Chemical Formula 3-F to an azide reaction to prepare a compound represented by the following Chemical Formula 3-G; and

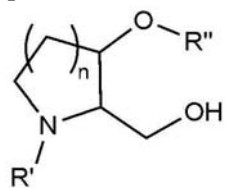
aminating the compound represented by the Chemical Formula 3-G to prepare a compound represented by the following Chemical Formula 3:

[Chemical Formula 3]

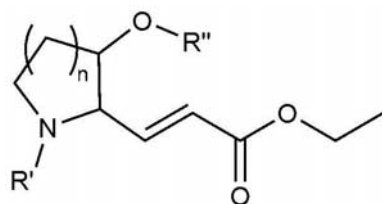


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[Chemical Formula 3-A]

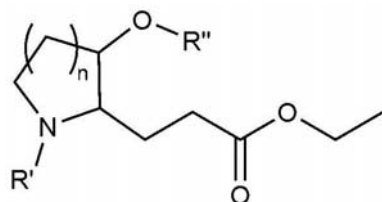


[Chemical Formula 3-B]

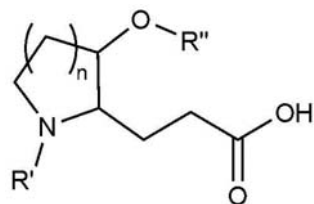


5

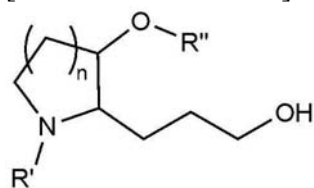
[Chemical Formula 3-C]



[Chemical Formula 3-D]

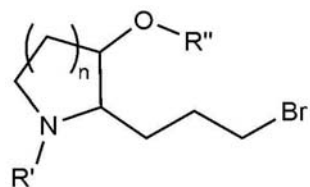


[Chemical Formula 3-E]

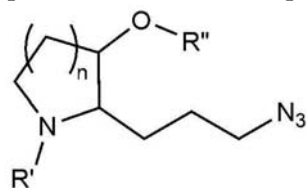


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[Chemical Formula 3-F]



[Chemical Formula 3-G]



in Chemical Formulas 3, 3-A, 3-B, 3-C, 3-D, 3-E, 3-F, and 3-G,
n is as defined in claim 1, and
R' and R" are each independently a protecting group.