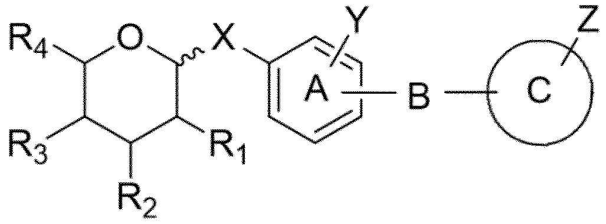
【Claims】

【Claim 1】

A compound represented by a following Chemical Formula I, an isomer, a hydrate, a solvate, a prodrug, or a pharmaceutically acceptable salt thereof:

[Chemical Formula I]



wherein,

R_1, R_2, and R_3 are each independently hydrogen, hydroxy, methoxy, fluoro, azide, amine, 10-aminodecanoic, acetyl, or benzyl;

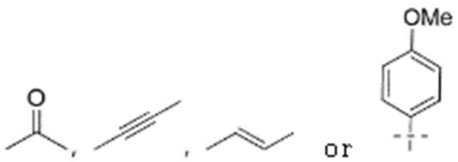
R_4 is hydrogen or methyl;

X is oxygen, nitrogen, sulfur, or $-CH_2-$;

A is phenyl which is unsubstituted or substituted with Y;

the substituent Y is one or more selected from the group consisting of hydrogen, straight-chain or branched C_{1-3} alkyl, and halogen;

B is a direct bond, $-[CH_2]_n-$, $-C(CH_3)_2-$, $-C(CF_3)_2-$, -O-, -NH-, $-SO_2-$,



, where n is an integer from 1 to 3;

ring C is C_{5-7} cycloalkyl, C_{5-7} heterocycloalkyl, phenyl, biphenyl, naphthyl, aryl, or heteroaryl which is unsubstituted or substituted with Z; and

the substituent Z is at least one or more selected from the group consisting of straight-

chain or branched C_{1-6} alkyl, cycloalkyl, phenyl, heteroaryl, halogen, amine, cyano, nitro, alkoxy, and thiol.

【Claim 2】

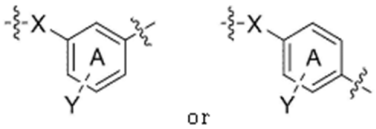
The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

A is phenyl substituted with Y; and

the substituent Y is halogen.

【Claim 3】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

X-A in the Chemical Formula I is  ; and

the substituent Y is a straight-chain or branched C_{1-3} alkyl or halogen.

【Claim 4】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

B is $-CH_2-$.

【Claim u】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

B is -O-.

【Claim 6】

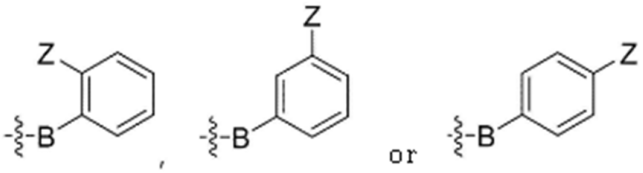
The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt

according to claim 1, wherein

ring C is phenyl which is unsubstituted or substituted with Z.

【Claim 7】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

B-ring C in the Chemical Formula I is 

.

【Claim 8】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

ring C is naphthyl or heteroaryl which is unsubstituted or substituted with Z.

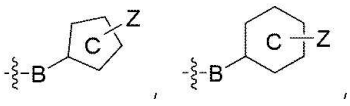
【Claim 9】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

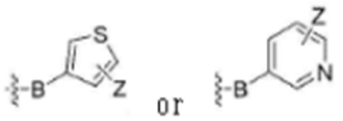
ring C is C_{5-7} cycloalkyl, C_{5-7} heterocycloalkyl, aryl, or heteroaryl which is unsubstituted or substituted with Z, the cycloalkyl, heterocycloalkyl, aryl, or heteroaryl is a monocyclic, bicyclic, or tricyclic ring compound.

【Claim 10】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

B-ring C in the Chemical Formula I is 

,



.

【Claim 11】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

the substituent Z is straight-chain or branched-chain C_{1-6} alkyl, halogen, amine, or alkoxy.

【Claim 12】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

such compound is selected from the group consisting of following from <1> to <124> compounds:

<1>(2R,3R,4S,5S)-2-(4-benzyloxyphenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<2>(2R,3R,4S,5S)-2-(4-(4-methylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<3>(2R,3R,4S,5S)-2-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<4>(2S,3R,4S,5S)-2-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<5>(3S,4S,5R,6R)-5-methoxy-6-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<6>(2R,3S,4R,5S,6S)-2-(4-(4-methoxybenzyl)phenoxy)-6-methyltetrahydro-*2H*-pyran-3,4,5-triol,

<7>(2R,3R,4S,5S)-2-(4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<8>(2R,3R,4S,5S)-2-(2-chloro-4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<9>(2R,3R,4S,5S)-2-(4-(4-phenoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<10>(2R,3R,4S,5S)-2-(4-(4-(trifluoromethoxy)benzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<11>(2R,3R,4S,5S)-2-(4-(4-(methylthio)benzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<12>(2S,3R,4S,5S)-2-(4-(4-(dimethylamino)benzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<13>(2R,3R,4S,5S)-2-(4-(4-fluorobenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<14>(2R,3R,4S,5S)-2-(4-(4-chlorobenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<15>(2R,3R,4S,5S)-2-(4-(3-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<16>(2R,3R,4S,5S)-2-(4-(3,5-bis(trifluoromethyl)benzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<17>(2R,3R,4S,5S)-2-(4-(3,4-dimethoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<18>(2R,3R,4S,5S)-2-(4-(3,4,5-trimethoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<19>(2R,3R,4S,5S)-2-(4-(naphthalen-2-ylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<20>(2R,3R,4S,5S)-2-(4-(6-methoxynaphthalen-2-yl)methyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<21>(2R,3R,4S,5S)-2-(4-(cyclopentylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<22>(2R,3R,4S,5S)-2-(4-(cyclohexylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<23>(2R,3R,4S,5S)-2-(4-(thiophen-3-ylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<24>(2R,3R,4S,5S)-2-(4-(pyridin-3-ylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<25>(2R,3R,4S,5S)-2-(3-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<26>(2R,3R,4S,5S)-2-((4-benzylphenyl)thio)tetrahydro-*2H*-pyran-3,4,5-thiol,

<27>(2R,3R,4S,5S)-2-((4-(4-isopropylbenzyl)phenyl)thio)tetrahydro-*2H*-pyran-3,4,5-triol,

<28>(2S,3R,4S,5S)-2-((4-(4-isopropylbenzyl)phenyl)thio)tetrahydro-*2H*-pyran-3,4,5-triol,

<29>(2R,3R,4S,5S)-2-((4-(4-methoxybenzyl)phenyl)thio)tetrahydro-*2H*-pyran-3,4,5-thiol,

<30>(2R,3R,4S,5S)-2-(4-(2-(4-methoxyphenyl)propan-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<31>(2R,3R,4S,5S)-2-(4-(2-(4-ethoxyphenyl)propan-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<32>(2R,3R,4S,5S)-2-(4-(1,1,1,3,3,3-hexafluoro-2-(4-methoxyphenyl)propan-2-

yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<33>(2R,3R,4S,5S)-2-(4-(para-tolyloxy)phenoxy)tetrahydro-2H-pyran-3,4,5-triol,

<34>(2R,3R,4S,5S)-2-(4-(3,5-dimethylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<35>(2R,3R,4S,5S)-2-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<36>(2R,3R,4S,5S)-2-(4-(4-(tert-butyl)phenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<37>(2R,3R,4S,5S)-2-(4-(3-chloro-4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<38>(2R,3R,4S,5S)-2-(3-chloro-4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<39>(2R,3R,4S,5S)-2-(4-(4-ethoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<40>(2R,3R,4S,5S)-2-(3-chloro-4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<41>(2R,3R,4S,5S)-2-(2-fluoro-4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<42>(2R,3R,4S,5R)-2-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran 3,4,5-triol,

<43>(2R,3R,4S,5R)-2-(4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<44>(2R,3R,4S,5S)-2-(4-(4-isopropoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<45>(2R,3R,4S,5S)-2-(4-(4-(cyclopentyloxy)benzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<46>(2R,3R,4S,5S)-2-(2-fluoro-4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<47>(2R,3R,4S,5S)-2-(3-fluoro-4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<48>(2R,3R,4S,5S)-2-(3-fluoro-4-(4-isopropylbenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<49>(2R,3R,4S,5S)-2-(4-(2-chloro-4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<50>(2R,3R,4S,5S)-2-(4-(2-fluoro-4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<51>(2R,3R,4S,5S)-2-(2-chloro-4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<52>(2R,3R,4S,5S)-2-(4-((4'-isopropyl-[1,1'-biphenyl]-4yl)methyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<53>(2R,3R,4S,5S)-2-(4-((5-methoxybenzo[d]oxazol-2yl)methyl)phenoxy)tetrahydro-2H-pyran-3,4,5-triol,

<54>(2R,3R,4S,5S)-2-(3-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<55>(2R,3R,4S,5S)-2-(4-(4-methoxyphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<56>(2R,3R,4S,5R)-2-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-2H-pyran-3,4,5-triol,

<57>(2R,3R,4S,5S)-2-(2-chloro-4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<58>(2R,3R,4R,5S)-5-fluoro-2-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<59>(2R,3R,4S,5R,6R)-2-(hydroxymethyl)-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<60>(2R,3R,4S,5S)-2-(4-(4-isopropylphenoxy)phenoxy)-4-methoxy-tetrahydro-*2H*-pyran-3,5-diol,

<61>(2R,3R,4R,5S)-2-(4-(4-isopropylphenoxy)phenoxy)-5-methoxy-tetrahydro-*2H*-pyran-3,4-diol,

<62>(3S,4S,5R,6R)-6-(4-(4-isopropylphenoxy)phenoxy)-5-methoxytetrahydro-*2H*-pyran-3,4-diol,

<63>(3S,4S,5R,6R)-5-fluoro-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<64>(2R,3R,4R,5R)-5-fluoro-2-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<65>(3S,4S,5S,6R)-5-fluoro-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<66>(3S,4R,6R)-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-2H-pyran-3,4-diol,

<67>(2R,3R,4S,5R)-2-(2-chloro-4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<68>(2R,3R,4S,5S)-2-(2-fluoro-4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<69>(3S,4R,5R,6R)-5-azido-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<70>(3S,4R,5R,6R)-5-amino-6-(4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<71>(4-methoxyphenyl)(4-(((2R,3R,4S,5S)-3,4,5-trihydroxytetrahydro-*2H*-pyran-2-

yl)oxy)phenyl)methanone,

<72>4-(4-(((2S,3R,4S,5S)-3,4,5-trihydroxytetrahydro-2H-pyran-2-yl)oxy)benzoyl)benzonitrile,

<73>(2R,3R,4S,5S)-2-(4-(((1r,4R)-4-ethylcyclohexyl)methyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<74>(2R,3R,4S,5S)-2-(4-(((1r,4R)-4-isopropylcyclohexyl)methyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<75>(2S,3R,4S,5S)-2-(4-((pyrrolidin-1-ylmethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<76>(2S,3R,4S,5S)-2-(4-(morpholinomethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<77>(3S,4R,5R,6R)-5-azido-6-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<78>(3S,4R,5R,6R)-5-amino-6-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3,4-diol,

<79>(2R,3R,4S,5S)-4,5-dihydroxy-2-(4-(4-methoxybenzyl)phenoxy)tetrahydro-*2H*-pyran-3-yl 10-aminodecanoate,

<80>(2R,3R,4S,5S)-2-((4'-methoxy-[1,1'-biphenyl]-3-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<81>(2R,3R,4S,5S)-2-(4-(6-methoxybenzofuran-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<82>(2R,3R,4S,5S)-2-(4-(5-methoxy-*1H*-indol-1-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<83>(2S,3R,4S,5S)-2-(4-(5-methoxy-*1H*-indol-1-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<84>(2R,3R,4S,5S)-2-((4'-methoxy-[1,1'-biphenyl]-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<85>(2R,3R,4S,5S)-2-(4-(6-methoxypyridin-3-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<86>(2R,3R,4S,5S)-2-((4'-isopropyl-[1,1'-biphenyl]-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<87>(2S,3R,4S,5S)-2-((4'-isopropyl-[1,1'-biphenyl]-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<88>(2R,3R,4S,5S)-2-(4-(6-isopropylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<89>(2S,3R,4S,5S)-2-(4-(6-isopropylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<90>(2R,3R,4S,5S)-2-(4-(5-methyl-*1H*-indol-1-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<91>(2R,3R,4S,5S)-2-(4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<92>(2S,3R,4S,5S)-2-(4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<93>(2R,3R,4S,5R)-2-(4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<94>(2S,3R,4S,5R)-2-(4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<95>(2R,3R,4S,5S)-2-(4-(6-ethylbenzofuran-3-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<96>(2S,3R,4S,5S)-2-(4-(6-ethylbenzofuran-3-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<97>(2R,3R,4S,5S)-2-(3-(7-isopropylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<98>(2S,3R,4S,5S)-2-(3-(7-isopropylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<99>(2R,3R,4S,5S)-2-(2-chloro-4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<100>(2S,3R,4S,5S)-2-(2-chloro-4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<101>(2R,3R,4S,5R)-2-(2-fluoro-4-(4-isopropylphenoxy)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol

<102>(2S,3R,4S,5S)-2-(2-chloro-4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<103>(2R,3R,4S,5S)-2-(2--chloro-4-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<104>(2S,3R,4S,5S)-2-(2-fluoro-4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-

pyran-3,4,5-triol,

<105>(2R,3R,4S,5S)-2-(2-fluoro-4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<106>(2S,3R,4S,5S)-2-(3-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<107>(2R,3R,4S,5S)-2-(3-(5-methoxybenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<108>(2S,3R,4S,5S)-2-(4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<109>(2R,3R,4S,5S)-2-(4-(5-methylbenzo[d]oxazol-2-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<110>(2R,3R,4S,5S)-2-(4-phenethylphenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<111>(2R,3R,4S,5S)-2-(4-((E)-styryl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<112>(2R,3R,4S,5S)-2-(4-(bis(4-methoxyphenyl)methyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<113>(2R,3R,4S,5S)-2-((4'-(4-isopropylbenzyl)-[1,1'-biphenyl]-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<114>Furan-2-yl(4-(((2S,3R,4S,5S)-3,4,5-trihydroxytetrahydro-*2H*-pyran-2-yl)oxy)phenyl)methanone,

<115>Furan-2-yl(4-(((2R,3R,4S,5S)-3,4,5-trihydroxytetrahydro-*2H*-pyran-2-yl)oxy)phenyl)methanone,

<116>(2R,3R,4S,5S)-2-(4-(4-methoxyphenethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<117>(2R,3R,4S,5S)-2-(4-(4-isopropylphenethyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<118>(2R,3R,4S,5S)-2-(4-((E)-4-methoxystyryl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<119>(2R,3R,4S,5S)-2-(4-((E)-4-isopropylstyryl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<120>(2R,3R,4S,5S)-2-(4-(benzo[d][1,3]dioxol-5-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<121>(2R,3R,4S,5S)-2-(4-(2,3-dihydrobenzo[b][1,4]dioxin-6-yl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<122>(2R,3R,4S,5S)-2-((4'-chloro-[1,1'-biphenyl]-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<123>(2R,3R,4S,5S)-2-((4"-isopropyl-[1,1':4',1"-terphenyl-4-yl)oxy)tetrahydro-*2H*-pyran-3,4,5-triol,

<124>(2R,3R,4S,5S)-2-(3-(phenylethynyl)phenoxy)tetrahydro-*2H*-pyran-3,4,5-triol.

【Claim 13】

The compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1, wherein

the compound has a function of regenerating and protecting brain neurons by targeting GPCR T1R3.

【Claim 14】

A pharmaceutical composition for preventing or treating a degenerative brain disease, comprising the compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1.

【Claim 15】

A food composition for preventing a degenerative brain disease, comprising the compound, isomer, hydrate, solvate, prodrug, or pharmaceutically acceptable salt according to claim 1.