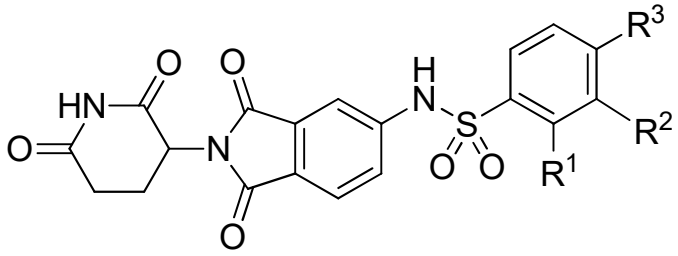
Claims

[Claim 1]

A compound represented by Formula I below, or a stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof:

[Formula I]



in Formula I,

R^1 is halogen, C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 haloalkyl, or C_1-C_6 haloalkoxy;

R^2 is C_1-C_6 alkyl optionally substituted with R^{2a};

R^{2a} is hydroxy, halogen, C_1-C_6 alkoxy, C_1-C_6 haloalkoxy, or -NR'R";

R' and R" are each hydrogen or C_1-C_6 alkyl, or R' and R" may be taken together with the nitrogen atom to which they are attached to form a 3 to 8-membered heterocyclic ring optionally comprising one additional heteroatom selected from N, O, and S; and

R^3 is hydrogen or halogen.

[Claim 2]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 1, wherein

R^1 is halogen, C_1-C_6 alkyl, C_1-C_6 haloalkyl, or C_1-C_6 haloalkoxy;

R^2 is C_1-C_6 alkyl optionally substituted with R^{2a};

R^{2a} is hydroxy or C_1-C_6 haloalkoxy; and

R^3 is hydrogen or halogen.

[Claim 3]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 2, wherein

R^1 is halogen or C_1-C_6 alkyl;

R^2 is C_1-C_6 alkyl; and

R^3 is hydrogen or halogen.

[Claim 4]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt

thereof according to claim 3, wherein

R^1 is halogen,

R^2 is C_1-C_6 alkyl, and

R^3 is hydrogen.

[Claim 5]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 2, wherein

R^1 is F, Cl, Br, I, $-OCH_2F$, $-OCHF_2$, $-OCF_3$, $-CH_2F$, $-CHF_2$, $-CF_3$, or $-CH_3$;

R^2 is $-CH_3$, $-CH_2CH_3$, $-CH_2OCF_3$, $-CH_2OCHF_2$, $-CH_2OCH_2F$, $-CH_2OH$, or $-CH_2CH_2OH$; and

R^3 is H or F.

[Claim 6]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 1, wherein

R^1 is halogen;

R^2 is C_1-C_6 alkyl substituted with NR'R";

R' and R" are each hydrogen or C_1-C_6 alkyl, or R' and R" may be taken together with the nitrogen atom to which they are attached to form a 3 to 8-membered heterocyclic ring optionally comprising one additional heteroatom selected from N, O, and S; and

R^3 is hydrogen.

[Claim 7]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 6, wherein

R' and R" are each hydrogen or C_1-C_3 alkyl, or R' and R" are taken together with the nitrogen atom to which they are attached to form a morpholinyl, thiomorpholinyl, piperazinyl, or piperidinyl ring.

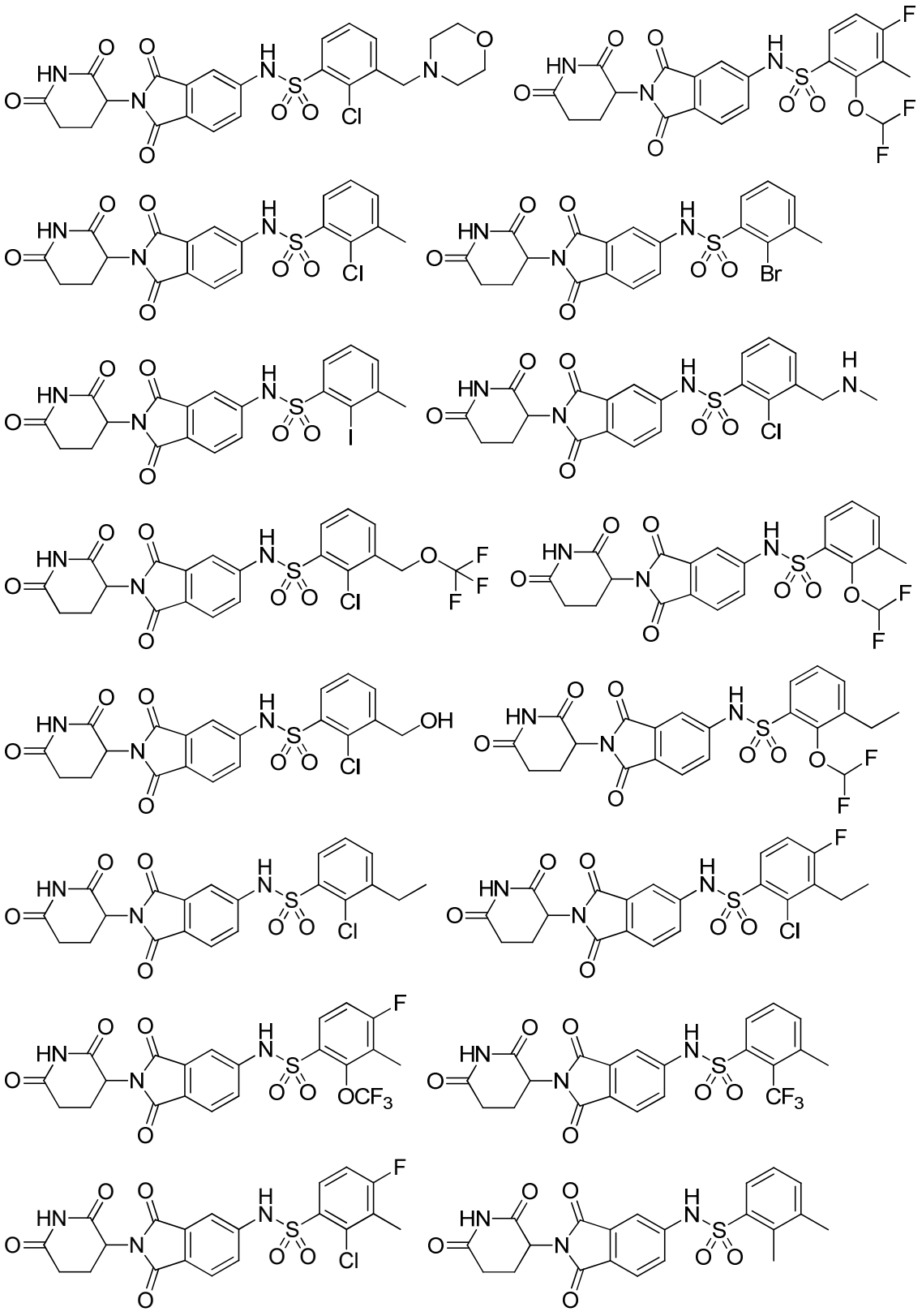
[Claim 8]

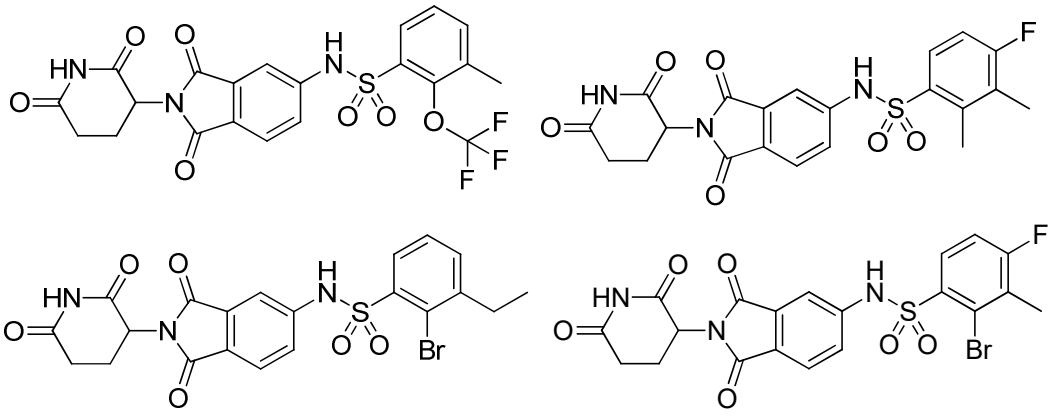
The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 6, wherein

R^2 is $-CH_2$-morpholinyl, $-CH_2$-CH_2-morpholinyl, $-CH_2$-NH_2, $-CH_2$-$NH(CH_3)$, $-CH_2$-$N(CH_3)_2$, $-CH_2CH_2$-NH_2, $-CH_2$-$CH_2NH(CH_3)$, or $-CH_2$-CH_2-$N(CH_3)_2$.

[Claim 9]

The compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to claim 1, wherein the compound is a compound represented by any one of the following formulas:





[Claim 10]

A pharmaceutical composition comprising a therapeutically effective amount of the compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to any one of claims 1 to 9 for use as a medicament.

[Claim 11]

Use of the compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to any one of claims 1 to 9 in the manufacture of a medicament for treating a disorder of uncontrolled cell proliferation.

[Claim 12]

The use according to claim 11, wherein the disorder of uncontrolled cell proliferation is cancer,

optionally, wherein the cancer is selected from pediatric acute leukemia, medulloblastoma, brain cancer, lung cancer, blood cancer, bladder cancer, colon cancer, cervical cancer, endometrial cancer, ovarian cancer, squamous cell cancer, kidney cancer, peritoneal cancer, breast cancer, stomach cancer, large intestine cancer, prostate cancer, pancreatic cancer, urogenital tract cancer, lymphatic cancer, laryngeal cancer, skin cancer, malignant melanoma, large intestine cancer, endometrial carcinoma, thyroid cancer, rhabdomyosarcoma, liver cancer, and a combination thereof,further optionally, wherein the cancer has a neuroendocrine phenotype,

further optionally, wherein the cancer is neuroendocrine prostate cancer, castration-resistant prostate cancer, or lung neuroendocrine tumor.

[Claim 13]

The use according to claim 11, wherein the medicament is to be administered with at least one agent known to treat cancer.

[Claim 14]

The use according to claim 13, wherein the at least one agent is selected from:

uracil mustard, chlormethine, cyclophosphamide, ifosfamide, melphalan, chlorambucil, pipobroman, triethylenemelamine, triethylenethiophosphoramine, busulfan, carmustine, lomustine, streptozocin, dacarbazine, temozolomide, thiotepa, altretamine, methotrexate, 5-fluorouracil, floxuridine, cytarabine, 6-mercaptopurine, 6-thioguanine, fludarabine phosphate, pentostatin, bortezomib, vinblastine, vincristine, vinorelbine, vindesine, bleomycin, dactinomycin, daunorubicin, doxorubicin, epirubicin, dexamethasone, clofarabine, cladribine, pemetrexed, idarubicin, paclitaxel, docetaxel, ixabepilone, mithramycin, topotecan, irinotecan, deoxycoformycin, mitomycin-C, L-asparaginase, interferon, etoposide, teniposide 17α-ethinyl estradiol, diethylstilbestrol, testosterone, prednisone, fluoxymesterone, drostanolone propionate, testolactone, megestrol acetate, tamoxifen, methylprednisolone, methyltestosterone, prednisolone, triamcinolone, chlorotrianisene, hydroxyprogesterone, aminoglutethimide, estramustine, medroxyprogesterone acetate, leuprolide, flutamide, toremifene, goserelin, cisplatin, carboplatin, hydroxyurea, amsacrine, procarbazine, mitotane, mitoxantrone, levamisole, navelbine, anastrozole, letrozole, capecitabine, raloxifene, droloxifene, hexamethylmelamine, oxaliplatin, gefitinib, capecitabine, erlotinib, azacitidine, temozolomide, gemcitabine, or vasostatin;

a DNA methyltransferase inhibitor, a HDAC-inhibitor, a glucocorticoid, a mTOR inhibitor, a cytotoxic agent, a BCL2 inhibitor, a FLT3 inhibitor, an IDH 1/2 inhibitor, a CDK inhibitor, a transcription inhibitor, or a HSP inhibitor; or a combination thereof,

optionally, wherein

the DNA methyltransferase inhibitor is 5-aza-2'-deoxycytidine, 5-azacitidine, zebularine, epigallocatechin-3-gallate, procaine, or a combination thereof;

the HDAC-inhibitor is vorinostat, entinostat, panobinostat, trichostatin A, mocetinostat, belinostat, dacinostat, givinostat, tubastatin A, pracinostat, droxinostat, quisinostat, romidepsin, valproic acid, AR-42 (OSU-HDAC42), tacedinaline, ricolinostat, apicidin, or a combination thereof;

the glucocorticoid is dexamethasone, prednisolone, methylprednisolone, betamethasone, triamcinolone, fludrocortisone, beclomethasone, or a combination thereof;

the mTor inhibitor is BEZ235, everolimus, sirolimus, temsirolimus, rapamycin, AZD8055, or a combination thereof;

the cytotoxic agent is selected from an alkylating agent, an antimetabolite, an antitumor antibiotic, a mitosis inhibitor, or a chemotherapeutic agent selected from anthracycline, cytarabine, a purine analog, sorafenib, gemtuzumab ozogamicin, rituximab, or a combination thereof;

the alkylating agent is selected from carboplatin, cisplatin, cyclophosphamide, chlorambucil, melphalan, carmustine, busulfan, lomustine, dacarbazine, oxaliplatin, ifosfamide, mechlorethamine, temozolomide, thiotepa, bendamustine, and streptozocin;

the antimetabolite is selected from gemcitabine, 5-fluorouracil, capecitabine, hydroxyurea, mercaptopurine, pemetrexed, fludarabine, nelarabine, cladribine, clofarabine, cytarabine, decitabine, pralatrexate, floxuridine, methotrexate, and thioguanine;

the antitumor antibiotic is selected from doxorubicin, mitoxantrone, bleomycin, daunorubicin, dactinomycin, epirubicin, idarubicin, plicamycin, mitomycin, pentostatin, and valrubicin;

the mitosis inhibitor is selected from irinotecan, topotecan, rubitecan, cabazitaxel, docetaxel, paclitaxel, etoposide, vincristine, ixabepilone, vinorelbine, vinblastine, and teniposide;

the BCL2 inhibitor is venetoclax, navitoclax, obatoclax mesylate, sabutoclax, or lisaftoclax;

the FLT3 inhibitor is midostaurin, quizartinib, gilteritinib, sorafenib, crenolanib, or pexidartinib;

the IDH 1/2 inhibitor is ivosidenib, enasidenib, vorasidenib, olutasidenib, AGI-6780, AGI-5198, or GSK321;

the CDK inhibitor is samuraciclib, alvocidib, fadraciclib, seliciclib, zotiraciclib, atuveciclib, enitociclib, voruciclib, SY5609, XL201, Q-901, KRLS-017, GTAEXS-617, TGN-1062, THZ1, THZ2, SY-1365, YKL-5-124, ICEC0942, LY3405105, LDC4297, BS-181, SNS- 32, AT-7519, AZD-4573, KB-0742, AU-07, BTXA-51, GFH-009, JS-101, PRT-2527, QHRD-107, TP-1287, SYHX-1903, CTX-439, KIN-004, SY-12882, THZ-531, CT-7439, AU-003, or AU-004;

the transcription inhibitor is lurbinectedin; and

the HSP inhibitor is pimitespib, luminespib, tanespimycin, alvespimycin, ganetespib, onalespib, geldanamycin, or rocaglamide.

[Claim 15]

A method of regulating a cereblon activity or a GSPT1 activity in at least one cell, comprising contacting the at least one cell *in vitro* with an effective amount of the compound, or stereoisomer, hydrate, solvate or pharmaceutically acceptable salt thereof according to any one of claims 1 to 9.