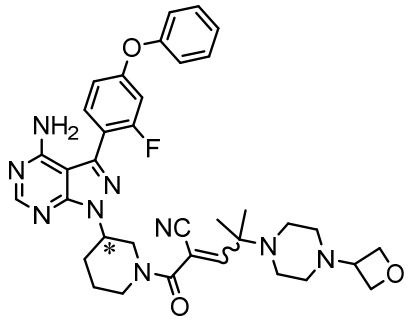
What is Claimed is:

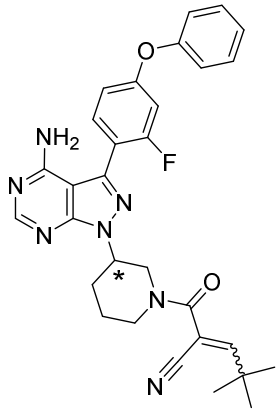
1. Use of at least one BTK inhibitor selected from:

   Compound (I):



where *C is a stereochemical center,

   Compound (II):

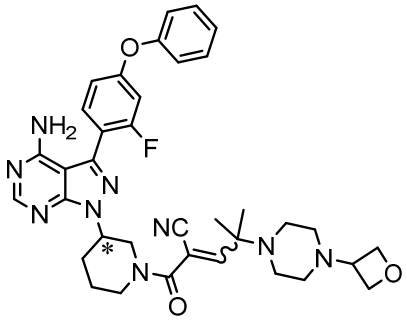


where *C is a stereochemical center,

   and pharmaceutically acceptable salts thereof, for the manufacture of a medicament for the treatment or prevention of drug-induced thrombocytopenia (DITP) in a human subject in need thereof.

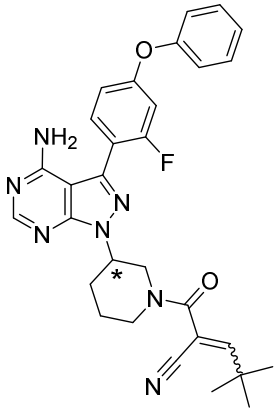
2. Use of at least one BTK inhibitor selected from:

   Compound (I):



where *C is a stereochemical center,

Compound (II):

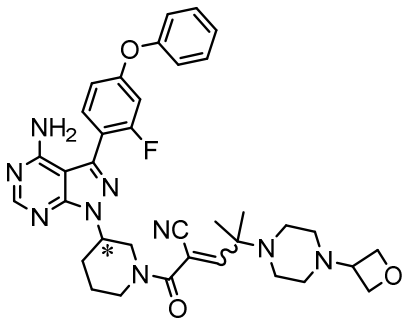


where *C is a stereochemical center,

and pharmaceutically acceptable salts thereof, for the manufacture of a medicament for the treatment or prevention of vaccine-induced thrombosis and thrombocytopenia syndrome (VITT) in a human subject in need thereof.

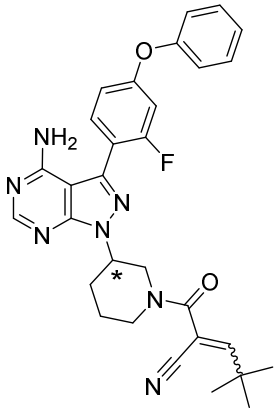
3. Use of at least one BTK inhibitor selected from:

Compound (I):



where *C is a stereochemical center,

Compound (II):

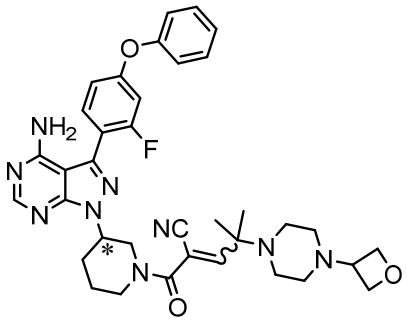


where *C is a stereochemical center,

and pharmaceutically acceptable salts thereof, for the manufacture of a medicament for increasing platelet count in a human subject with drug-induced thrombocytopenia (DITP) or vaccine-induced thrombosis and thrombocytopenia syndrome (VITT) in a human subject in need thereof.

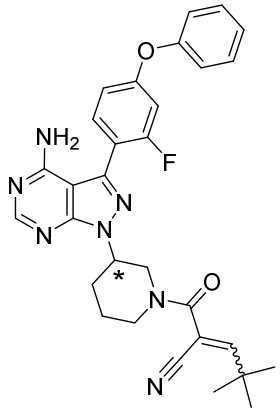
4. Use of at least one BTK inhibitor selected from:

Compound (I):



where *C is a stereochemical center,

Compound (II):



where *C is a stereochemical center,

and pharmaceutically acceptable salts thereof, for the manufacture of a medicament for reducing platelet aggregation in a human subject with drug-induced thrombocytopenia (DITP) or vaccine-induced thrombosis and thrombocytopenia syndrome (VITT) in a human subject in need thereof.

5. The use of any one of claims 1-4, wherein, prior to administration, the human subject has at least one characteristic chosen from:
    a. elevated D-dimer levels;
    b. thrombosis; and
    c. anti-platelet factor 4 (PF4) antibodies.

6. The use of any one of claims 1, and 3-5, wherein the drug-induced thrombocytopenia (DITP) is induced by administration of a small molecule, protein, or components, diluents, excipients or the like found in therapeutic treatments.

7. The use of any one of claims 1, and 3-6, wherein the drug-induced thrombocytopenia (DITP) is induced by administration of unfractionated heparin, enoxaparin, dalteparin, tinzaparin, acenocoumarol, acetaminophen, acetyldigoxin, alfacalcidol, allopurinol, alteplase, amphotericin B, argatroban, aspirin, atenolol, azathioprine, bivalirudin, bortezomib, capecitabine, captopril, carbamazepine, carboplatin, carfilzomib, ceftriaxone, cephalexin, chlorthalidone, cilastin/imipenem, clopidogrel, clozapine, cyclocytidine, dactinomucin/actinomycin, deferasirox, deferiprone, diflunisal, digoxin, dipyridamole, drospirenone/ethinylestradiol, eltrombopag, epoetin alfa, eporestenol, eptifibatide,

famotidine, fluconazole, fluorouracil, furosemide, fusidic acid, ganciclovir, gemcitabine, gentamicin, glycoprotein IIB/IIA inhibitor, gold, hydrochlorothiazide, hydrochlorothiazide/triamterene, hydroxychloroquine, imatinib, inamrinone, intergrilin, ITP drugs, ixazomib, lenalidomide, levetiracetam, linezolid, melperone, menatetrenone, meropenem, methotrexate, metoprolol, molsidomine, nedaplatin, nicotinamide, nitrofurantoin, nonsteroidal anti-inflammatory drugs (NSAIDS) (e.g., ibuprofen, naproxen, celecoxib, diclofenac, and the like), octreotide, pantroprazole, penicillamine, phenytoin, piperacillin, propranolol, proton pump inhibitors, quinine, rifampin, ruxolitinib, ruxolitnib phosphate, sirolimus, spironolactone, streptokinase, sulfamethoxazole, sulfisoxazole, sunitinib, teicoplanin, temozolomide, temsirolimus, ticlopidine, tirofiban, trimethoprim/sulfamethoxazole, urokinase, valganciclovir, valproic acid, vancomycin, warfarin, or combinations thereof.

8. The use of any one of claims 1, and 3-6, wherein the drug-induced thrombocytopenia (DITP) is induced by administration of filgrastim (granulocyte colony stimulating factor; G-CSF), interferon, interferon alpha, peginterferon alfa 2B, peginterferon alfa 2B/ribavirin, factor VIII, TNF alpha, INF gamma, or combinations thereof.

9. The use of any one of claims 1, and 3-6, wherein the drug-induced thrombocytopenia (DITP) is induced by administration of abciximab, adalimumab, alemtuzumab, antibody-drug conjugates, anti-thymocyte globulin, brentuximab, cixutumumab, efaluzumab, natalizumab, rituximab, trastuzumab, or combinations thereof.

10. The use of any one of claims 2-5, wherein the vaccine-induced thrombosis and thrombocytopenia syndrome (VITT) is induced by administration of a vaccine.

11. The use of any one of claims 2-5, and 10, wherein the vaccine-induced thrombosis and thrombocytopenia syndrome (VITT) is induced by administration of a vaccine delivered in an adenoviral vector.

12. The use of claim 11, wherein the adenoviral vector comprises a therapeutic and/or prophylactic agent.

13. The use of claim 12, wherein the therapeutic or prophylactic agent is a gene therapy.

14. The use of any one of claims 10-13, wherein the vaccine is to prevent a coronavirus infection.

15. The use of claim 14, wherein the coronavirus infection is COVID-19.

16. The use of any one of claims 10-13, wherein the vaccine is to prevent an infection selected from measles, mumps, rubella, varicella, herpes simplex virus 1, herpes simplex virus 2, varicella, rotavirus, influenza, yellow fever, smallpox, hepatitis B, human papilloma virus, pneumococcus, hepatitis A, anthrax, diphtheria, acellular pertussis, hemophilus influenzae, including type B, meningococcus C, meningitis, typhoid, rabies, Lyme disease, tetanus, or any combination thereof.

17. The use of any one of claims 1-16, wherein Compound I is (R)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, (S)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile, a mixture of (R)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile and (S)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile; or an individual (E)- or (Z)-isomer of any of the above compounds; and/or a pharmaceutically acceptable salt of any of the above compounds.

18. The use of claim 17, wherein Compound I is the (E) isomer of (R)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or a pharmaceutically acceptable salt thereof.

19. The use of claim 17, wherein Compound I is the (Z) isomer of (R)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or a pharmaceutically acceptable salt thereof.

20. The use of claim 17, wherein Compound I is a mixture of (E) and (Z) isomers of (R)-2-[3-[4-amino-3-(2-fluoro-4-phenoxy-phenyl)pyrazolo[3,4-d]pyrimidin-1-yl]piperidine-1-carbonyl]-4-methyl-4-[4-(oxetan-3-yl)piperazin-1-yl]pent-2-enenitrile or a pharmaceutically acceptable salt thereof.

21. The use of any one of claims 1-17, wherein Compound II is (R)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile, (S)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile, a mixture of (R)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile and (S)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile, or an individual (E)- or (Z)- isomer of any of the above compounds; and/or a pharmaceutically acceptable salt of any of the above compounds.

22. The use of claim 21, wherein Compound II is the (E) isomer of (R)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile or a pharmaceutically acceptable salt thereof.

23. The use of claim 21, wherein Compound II is the (Z) isomer of (R)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile or a pharmaceutically acceptable salt thereof.

24. The use of claim 21, wherein Compound II is a mixture of (E) and (Z) isomers of (R)-2-(3-(4-amino-3-(2-fluoro-4-phenoxyphenyl)-1H-pyrazolo[3,4-d]pyrimidin-1-yl)piperidine-1-carbonyl)-4,4-dimethylpent-2-enenitrile or a pharmaceutically acceptable salt thereof.