WHAT IS CLAIMED IS:

1. A method for inducing, activating, and/or expanding of γδ T cells, comprising contacting at least one γδ T cell *ex vivo* or *in vitro* with an engineered feeder cell, an engineered plasma membrane particle, an engineered exosome, or a solid support comprising ~~a~~an antibody Fc domain competent for agonizing an Fc receptor and bound through a transmembrane domain to the external surface ~~thereof~~of the engineered feeder cell, engineered plasma membrane particle, engineered exosome, or solid support, wherein the transmembrane domain is attached to the amino terminal side of the Fc domain, thereby inducing, activating, and/or expanding the at least one γδ T cell.

~~2. The method of claim 1, wherein the Fc domain is bound to the external surface through a transmembrane domain.~~

~~The method of claim 2,~~

~~3.~~2. The method of claim 1, wherein the transmembrane domain comprises a signal-anchor sequence selected from a transmembrane domain of neuraminidase, a signal-anchor sequence from parainfluenza virus hemagglutinin-neuraminidase, a signal-anchor sequence from the transferrin receptor, a signal-anchor sequence from the MHC class II invariant chain, a signal-anchor sequence from P glycoprotein, a signal-anchor sequence from asialoglycoprotein receptor, and a signal-anchor sequence from a neutral endopeptidase.

~~4.~~3. The method of claim ~~2,~~2, wherein the transmembrane domain comprises a parainfluenza virus hemagglutinin-neuraminidase (NA) peptide sequence.

~~5. The method of claim 4, wherein the NA peptide sequence comprises a sequence at least 81% identical to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4.~~

~~The method of claim 4~~

~~6.~~4. The method of claim 3, wherein the NA peptide sequence comprises a sequence at least 95% identical to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4 or comprises a sequence at least 95% identical to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4.

~~7.~~5. The method of any one of claims ~~2~~2 to ~~6,~~4, wherein the transmembrane domain and the amino terminal side of the Fc domain are linked via a peptide linker.

~~8.~~6. The method of any one of claims 1 to ~~7,~~5, wherein the Fc domain comprises an immunoglobulin Fc domain selected from IgG1, IgG2, IgG3, IgG4, IgA and IgE.

~~9.~~7. The method of any one of claims 1 to ~~8,~~6, wherein the Fc domain binds to CD16.

~~10.~~8. The method of any one of claims 1 to ~~9,~~7, wherein the feeder cell comprises a peripheral blood mononuclear cell (PBMC), a fibroblast, an epithelial cell, an endothelial cell, an antigen-presenting cell, or a microbial cell.

11.9. The method of any one of claims 1 to 9,7, wherein the feeder cell comprises RPMI8866, HFWT, 721.221, K562, or EBV-LCL.

12.10. The method of any one of claimclaims 1 to 119, further comprising contacting the at least one γδ T cell with at least one γδ T cell effector agent.

13.11. The method of claim 12,10, wherein the at least one γδ T cell effector agent is expressed on or bound to the external surface of the engineered feeder cell, the engineered plasma membrane particle, the exosome, or the solid support.

14.12. The method of claim 12claims 10 or 13,11, wherein the at least one γδ T cell effector agent comprises a cytokine, an adhesion molecule, or a γδ T cell activating agent.

15.13. The method of any one of claims 1210 to 14,12, wherein the at least one γδ T cell effector agent comprises 4-1BBL, CD80, CD86, MICA, UBLP, 2B4, LFA-1, ligand for NKG2D, ligand for DNAM-1, IL-2, IL-12, IL-18, IL-15, or IL-21, or any combination thereof.

16.14. The method of any one of claims 1210 to 15,13, wherein the at least one γδ T cell effector agent comprises 4-1BBL, IL-18, IL-15, or IL-21, or any combination thereof.

17. The method of any one of claims 1 to 16, wherein the at least one γδ T cell is contacted with the feeder cell, the engineered particle, the exosome, or the solid support *in vitro*, *in vivo*, or *ex vivo*.

18.15. The method of any one of claims 1 to 17,14, wherein the expanded γδ T cells comprise Vδ2 subtype and/or Vδ1 subtype.

19.16. The method of claim any one of claims 1 18, 15, wherein the γδ T cells are autologous, haploidentical, or allogeneic γδ T cells.

20. The method of any one of claims 1 19, 16, wherein the γδ T cells are expanded for at least 14 days.

21.17. The method of claim 20, and wherein at least about 5%, 10%, 20%, 30%, 40%, 50%, or 60% of the cells in the expanded cells γδ T-cells are γδ T cells of the Vδ2 subtype.

22.18. The method of any of claims 1 21, 17, wherein the γδ T cells expand at a faster rate over 14 days than a control γδ T cell population.

23. The method of any of claims 1 22, 18, wherein the γδ T cells are in a mixed cell population.

24.19. The method of claim 23, wherein the mixed cell population comprises comprising NK cells.

~~25.~~20. The method of ~~clam 24,~~claim 19, wherein the mixed cell population is depleted of NK cells prior to, during, or after expansion of the γδ T cells.

~~A method of~~

~~26.~~21. Use of γδ T cells in the manufacture of a medicament for treating, decreasing, inhibiting, reducing, ameliorating, and/or preventing a cancer, metastasis, or an infectious disease in a subject ~~comprising administering to~~, wherein the ~~subject a therapeutically effective amount of~~ γδ T cells are expanded, activated, or induced according to the method of any one of claims 1~~-25.~~-20.

~~27. A method of treating, decreasing, inhibiting, reducing, ameliorating, and/or preventing a cancer, metastasis, or an infectious disease in a subject comprising~~

~~a. obtaining at least one γδ T cell;~~

~~contacting the least one γδ T cell with~~

~~b.~~ Use of an engineered feeder cell, an engineered plasma membrane particle, an engineered exosome, or a solid support ~~comprising a Fc domain bound to the external surface thereof;~~

~~c. administering to the subject a therapeutically effective amount~~in the manufacture of ~~the contacted γδ T cells to the subject.~~

~~28. The method of claim 27,~~ a medicament for treating, decreasing, inhibiting, reducing, and/or ameliorating a cancer, metastasis, or an infectious disease in a subject wherein the ~~at least one γδ T cell~~medicament is ~~contacted with the feeder cell, the engineered particle, the exosome, or the solid support *in vitro*, *in vivo*, or *ex vivo*.~~

~~29. The method of claim 27, wherein step b further comprises~~ suitable for expanding, inducing, and/or activating~~, and/or expanding the at least one γδ T cell following the contact with γδ T cells, wherein~~ the engineered feeder cell, the engineered plasma membrane particle, the ~~exosome, or the solid support comprising a Fc domain bound to the external surface thereof.~~

~~30. The method of claim 29, wherein the γδ T cells are induced, activated, and/or expanded for at least 7days.~~

~~31. A method of treating, decreasing, inhibiting, reducing, ameliorating, and/or preventing a cancer, metastasis, or an infectious disease in a subject by expanding, inducing, and/or activating endogenous γδ T cells in the subject, said method comprising administering to the subject an~~ engineered ~~plasma membrane particle, an~~ exosome, or ~~a~~the solid support ~~comprising a~~comprises an antibody Fc domain competent for agonizing an FC receptor and bound ~~to the external surface thereof.~~

32.22. The method of claims 10 to 31, wherein the Fc domain is bound to the external surface through a transmembrane domain. to the external surface of the engineered feeder cell, engineered plasma membrane particle, engineered exosome, or solid support, and wherein the transmembrane domain is attached to the amino terminal side of the Fc domain.

33.23. The methoduse of claim 32,22, wherein the transmembrane domain comprises a signal-anchor sequence selected from a transmembrane domain of neuraminidase, a signal-anchor sequence from parainfluenza virus hemagglutinin-neuraminidase, a signal-anchor sequence from the transferrin receptor, a signal-anchor sequence from the MHC class II invariant chain, a signal-anchor sequence from P glycoprotein, a signal-anchor sequence from asialoglycoprotein receptor, and a signal-anchor sequence from a neutral endopeptidase.

34.24. The methoduse of claim 32,22, wherein the transmembrane domain comprises a parainfluenza virus hemagglutinin-neuraminidase (NA) peptide sequence.

35. The methoduse of claim 34,24, wherein the NA peptide sequence comprises a sequence at least 81% identical to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4.

36.25. The method of claim 34,, or wherein the NA peptide sequence comprises a sequence at least 95% identical to SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, or SEQ ID NO: 4.

37.26. The methoduse of any one of claims 33 to 36,23-25, further comprising a peptide linker between the transmembrane domain and amino terminal side of the Fc domain.

38.27. The methoduse of any one of claims 31 to 37,22 to 26, wherein the Fc domain comprises an immunoglobulin Fc domain selected from IgG1, IgG2, IgG3, IgG4, IgA and IgE.

39.28. The methoduse of any one of claims 3122 to 38,27, wherein the Fc domain binds to CD16.

40.29. The methoduse of any one of claims 3122 to 39,28, wherein the feeder cell comprises a peripheral blood mononuclear cell (PBMC), a fibroblast, an epithelial cell, an endothelial cell, an antigen-presenting cell, or a microbial cell.

41.30. The methoduse of any one of claims 3122 to 39,28, wherein the feeder cell comprises RPMI8866, HFWT, 721.221, K562, or EBV-LCL.

42.31. The methoduse of any one of claims 3122 to 41,30, further comprising contacting the γδ T cells with a least one γδ T cell effector agent.

43. The method of claim 42, wherein the γδ T cells are contacted with the at least one γδ T cell effector agent *in vivo* after administration of the γδ T cells to the subject.

The method of claim 42,

44.32. The use of claim 31, wherein the γδ T cell effector agent is expressed on or bound to the membrane surface of the engineered feeder cell, the engineered plasma membrane particle, the engineered exosome, or the solid support.

45. The method of any one of claims 10 to 44, further comprising administering to the subject an *ex vivo* composition comprising a fusion protein comprising a transmembrane domain linked to the amino terminus of an Fc domain and bound to an engineered feeder cell, an use of claim 22, wherein the engineered plasma membrane particle, an exosome, or a solid support, in contact with an isolated mixed cell population comprising at least one γδ T cells comprising CD16 or a functional fragment thereof.

46. The method of claim 45, wherein the *ex vivo* composition is free of feeder cells and comprises an engineered plasma membrane particle or engineered exosome comprising an inverted Fc domain bound to an external surface of the engineered plasma membrane particle or exosome.

47. The method of claims 45 or 46, wherein the *ex vivo* composition further comprises at least one γδ T cell effector agent.

48.33. The method of any one of claims 45 to 47, wherein the engineered plasma membrane particle comprising a plasma membrane and a plurality of microparticles or support surfaces, wherein the plasma membrane coatscoating the plurality of microparticles or support surfaces.

49.34. The methoduse of claim 48,33, wherein the plurality of microparticles or surfaces comprise at least one of magnetic microparticles, silica beads, polystyrene beads, latex beads, micro-structures, a contrast agent, and a cancer therapeutic agent.

50.35. The methoduse of claim any one of claims 4231 to 49,34, wherein the at least one γδ T cell effector agent comprises a cytokine, an adhesion molecule, a γδ T cell activating agent, or a γδ T cell inhibitor agent.

51.36. The methoduse of any one of claims 4231 to 50,35, wherein the at least one γδ T cell effector agent comprises 4-1BBL, CD80, CD86, MICA, UBLP, 2B4, LFA-1, ligand for NKG2D, ligand for DNAM-1, IL-2, IL-12, IL-18, IL-15, or IL-21.

52.37. The methoduse of any one of claims 4231 to 5135, wherein the at least one γδ T cell effector agent comprises 4-1BBL, IL-18, IL-15, or IL-21, or any combination thereof.

53.38. The methoduse of claim andany one of claims 3122 to 52,37, wherein the γδ T cells are autologous, haploidentical, or allogeneic γδ T cells.

54.39. The methoduse of any one of claims 3122 to 53,38, wherein the cancer is selected from the group consisting of a hematologic cancer, lymphoma, colorectal cancer, colon cancer, lung cancer, a head and neck cancer, ovarian cancer, prostate cancer, testicular cancer, renal cancer, skin cancer, cervical cancer, pancreatic cancer, and breast cancer. In one aspect, the cancer comprises a solid tumor. In another aspect, the cancer is selected from acute myeloid leukemia, myelodysplastic syndrome, chronic myeloid leukemia, acute lymphoblastic leukemia,

myelofibrosis, multiple myeloma. In another aspect, wherein the cancer preferably is selected from a leukemia, a lymphoma, a sarcoma, a carcinoma and may originate in the marrow, brain, lung, breast, pancreas, liver, head and neck, skin, reproductive tract, prostate, colon, liver, kidney, intraperitoneum, bone, joint, or eye.

55.40. The methoduse of claim 54,54, wherein the medicament further comprising administering to the subjectcomprises at least one cancer therapeutic agent in combination with the composition.

56. The method of claim 55, wherein the at least one cancer therapeutic agent is selected from the group consisting of Abemaciclib, Abiraterone Acetate, Abitrexate (Methotrexate), Abraxane (Paclitaxel Albumin-stabilized Nanoparticle Formulation), ABVD, ABVE, ABVE-PC, AC, AC-T, Adcetris (Brentuximab Vedotin), ADE, Ado-Trastuzumab Emtansine, Adriamycin (Doxorubicin Hydrochloride), Afatinib Dimaleate, Afinitor (Everolimus), Akynzeo (Netupitant and Palonosetron Hydrochloride), Aldara (Imiquimod), Aldesleukin, Alecensa (Alectinib), Alectinib, Alemtuzumab, Alimta (Pemetrexed Disodium), Aliqopa (Copanlisib Hydrochloride), Alkeran for Injection (Melphalan Hydrochloride), Alkeran Tablets (Melphalan), Aloxi (Palonosetron Hydrochloride), Alunbrig (Brigatinib), Ambochlorin (Chlorambucil), Amboclorin Chlorambucil), Amifostine, Aminolevulinic Acid, Anastrozole, Aprepitant, Aredia (Pamidronate Disodium), Arimidex (Anastrozole), Aromasin (Exemestane),Arranon (Nelarabine), Arsenic Trioxide, Arzerra (Ofatumumab), Asparaginase Erwinia chrysanthemi, Atezolizumab, Avastin (Bevacizumab), Avelumab, Axitinib, Azacitidine, Bavencio (Avelumab), BEACOPP, Becenum (Carmustine), Beleodaq (Belinostat), Belinostat, Bendamustine Hydrochloride, BEP, Besponsa (Inotuzumab Ozogamicin) , Bevacizumab, Bexarotene, Bexxar (Tositumomab and Iodine I 131 Tositumomab), Bicalutamide, BiCNU (Carmustine), Bleomycin, Blinatumomab, Blincyto (Blinatumomab), Bortezomib, Bosulif (Bosutinib), Bosutinib, Brentuximab Vedotin, Brigatinib, BuMel, Busulfan, Busulfex (Busulfan), Cabazitaxel, Cabometyx (Cabozantinib-S-Malate), Cabozantinib-S-Malate, CAF, Campath (Alemtuzumab), Camptosar , (Irinotecan Hydrochloride), Capecitabine, CAPOX, Carac (Fluorouracil - Topical), Carboplatin, CARBOPLATIN-TAXOL, Carfilzomib, Carmubris (Carmustine), Carmustine, Carmustine Implant, Casodex (Bicalutamide), CEM, Ceritinib, Cerubidine (Daunorubicin Hydrochloride), Cervarix (Recombinant HPV Bivalent Vaccine), Cetuximab, CEV, Chlorambucil, CHLORAMBUCIL-PREDNISONE, CHOP, Cisplatin, Cladribine, Clafen (Cyclophosphamide), Clofarabine, Clofarex (Clofarabine), Clolar (Clofarabine), CMF, Cobimetinib, Cometriq (Cabozantinib-S-Malate), Copanlisib Hydrochloride, COPDAC, COPP, COPP-ABV, Cosmegen (Dactinomycin), Cotellic (Cobimetinib), Crizotinib, CVP, Cyclophosphamide, Cyfos (Ifosfamide), Cyramza (Ramucirumab), Cytarabine, Cytarabine Liposome, Cytosar-U

(Cytarabine), Cytoxan (Cyclophosphamide), Dabrafenib, Dacarbazine, Dacogen (Decitabine), Dactinomycin, Daratumumab, Darzalex (Daratumumab), Dasatinib, Daunorubicin Hydrochloride, Daunorubicin Hydrochloride and Cytarabine Liposome, Decitabine, Defibrotide Sodium, Defitelio (Defibrotide Sodium), Degarelix, Denileukin Diftitox, Denosumab, DepoCyt (Cytarabine Liposome), Dexamethasone, Dexrazoxane Hydrochloride, Dinutuximab, Docetaxel, Doxil (Doxorubicin Hydrochloride Liposome), Doxorubicin Hydrochloride, Doxorubicin Hydrochloride Liposome, Dox-SL (Doxorubicin Hydrochloride Liposome), DTIC-Dome (Dacarbazine), Durvalumab, Efudex (Fluorouracil - Topical), Elitek (Rasburicase), Ellence (Epirubicin Hydrochloride), Elotuzumab, Eloxatin (Oxaliplatin), Eltrombopag Olamine, Emend (Aprepitant), Empliciti (Elotuzumab), Enasidenib Mesylate, Enzalutamide, Epirubicin Hydrochloride , EPOCH, Erbitux (Cetuximab), Eribulin Mesylate, Erivedge (Vismodegib), Erlotinib Hydrochloride, Erwinaze (Asparaginase Erwinia chrysanthemi) , Ethyol (Amifostine), Etopophos (Etoposide Phosphate), Etoposide, Etoposide Phosphate, Evacet (Doxorubicin Hydrochloride Liposome), Everolimus, Evista , (Raloxifene Hydrochloride), Evomela (Melphalan Hydrochloride), Exemestane, 5-FU (Fluorouracil Injection), 5-FU (Fluorouracil - Topical), Fareston (Toremifene), Farydak (Panobinostat), Faslodex (Fulvestrant), FEC, Femara (Letrozole), Filgrastim, Fludara (Fludarabine Phosphate), Fludarabine Phosphate, Fluoroplex (Fluorouracil - Topical), Fluorouracil Injection, Fluorouracil - Topical, Flutamide, Folex (Methotrexate), Folex PFS (Methotrexate), FOLFIRI, FOLFIRI-BEVACIZUMAB, FOLFIRI-CETUXIMAB, FOLFIRINOX, FOLFOX, Folotyn (Pralatrexate), FU-LV, Fulvestrant, Gardasil (Recombinant HPV-Quadrivalent Vaccine), Gardasil 9 (Recombinant HPV-Nonavalent Vaccine), Gazyva (Obinutuzumab), Gefitinib, Gemcitabine Hydrochloride, GEMCITABINE-CISPLATIN, GEMCITABINE-OXALIPLATIN, Gemtuzumab Ozogamicin, Gemzar (Gemcitabine Hydrochloride), Gilotrif (Afatinib Dimaleate), Gleevec (Imatinib Mesylate), Gliadel (Carmustine Implant), Gliadel wafer (Carmustine Implant), Glucarpidase, Goserelin Acetate, Halaven (Eribulin Mesylate), Hemangeol (Propranolol Hydrochloride), Herceptin (Trastuzumab), HPV Bivalent Vaccine, Recombinant, HPV Nonavalent Vaccine, Recombinant, HPV Quadrivalent Vaccine, Recombinant, Hycamtin (Topotecan Hydrochloride), Hydrea (Hydroxyurea), Hydroxyurea, Hyper-CVAD, Ibrance (Palbociclib), Ibritumomab Tiuxetan, Ibrutinib, ICE, Iclusig (Ponatinib Hydrochloride), Idamycin (Idarubicin Hydrochloride), Idarubicin Hydrochloride, Idelalisib, Idhifa (Enasidenib Mesylate), Ifex (Ifosfamide), Ifosfamide, Ifosfamidum (Ifosfamide), IL-2 (Aldesleukin), Imatinib Mesylate, Imbruvica (Ibrutinib), Imfinzi (Durvalumab), Imiquimod, Imlygic (Talimogene Laherparepvec), Inlyta

(Axitinib), Inotuzumab Ozogamicin, Interferon Alfa-2b, Recombinant, Interleukin-2 (Aldesleukin), Intron A (Recombinant Interferon Alfa-2b), Iodine I 131 Tositumomab and Tositumomab, Ipilimumab, Iressa (Gefitinib), Irinotecan Hydrochloride, Irinotecan Hydrochloride Liposome, Istodax (Romidepsin), Ixabepilone, Ixazomib Citrate, Ixempra (Ixabepilone), Jakafi (Ruxolitinib Phosphate), JEB, Jevtana (Cabazitaxel), Kadcyla (Ado-Trastuzumab Emtansine), Keoxifene (Raloxifene Hydrochloride), Kepivance (Palifermin), Keytruda (Pembrolizumab), Kisqali (Ribociclib), Kymriah (Tisagenlecleucel), Kyprolis (Carfilzomib), Lanreotide Acetate, Lapatinib Ditosylate, Lartruvo (Olaratumab), Lenalidomide, Lenvatinib Mesylate, Lenvima (Lenvatinib Mesylate), Letrozole, Leucovorin Calcium, Leukeran (Chlorambucil), Leuprolide Acetate, Leustatin (Cladribine), Levulan (Aminolevulinic Acid), Linfolizin (Chlorambucil), LipoDox (Doxorubicin Hydrochloride Liposome), Lomustine, Lonsurf (Trifluridine and Tipiracil Hydrochloride), Lupron (Leuprolide Acetate), Lupron Depot (Leuprolide Acetate), Lupron Depot-Ped (Leuprolide Acetate), Lynparza (Olaparib), Marqibo (Vincristine Sulfate Liposome), Matulane (Procarbazine Hydrochloride), Mechlorethamine Hydrochloride, Megestrol Acetate, Mekinist (Trametinib), Melphalan, Melphalan Hydrochloride, Mercaptopurine, Mesna, Mesnex (Mesna), Methazolastone (Temozolomide), Methotrexate, Methotrexate LPF (Methotrexate), Methylnaltrexone Bromide, Mexate (Methotrexate), Mexate-AQ (Methotrexate), Midostaurin, Mitomycin C, Mitoxantrone Hydrochloride, Mitozytrex (Mitomycin C), MOPP, Mozobil (Plerixafor), Mustargen (Mechlorethamine Hydrochloride) , Mutamycin (Mitomycin C), Myleran (Busulfan), Mylosar (Azacitidine), Mylotarg (Gemtuzumab Ozogamicin), Nanoparticle Paclitaxel (Paclitaxel Albumin-stabilized Nanoparticle Formulation), Navelbine (Vinorelbine Tartrate), Necitumumab, Nelarabine, Neosar (Cyclophosphamide), Neratinib Maleate, Nerlynx (Neratinib Maleate), Netupitant and Palonosetron Hydrochloride, Neulasta (Pegfilgrastim), Neupogen (Filgrastim), Nexavar (Sorafenib Tosylate), Nilandron (Nilutamide), Nilotinib, Nilutamide, Ninlaro (Ixazomib Citrate), Niraparib Tosylate Monohydrate, Nivolumab, Nolvadex (Tamoxifen Citrate), Nplate (Romiplostim), Obinutuzumab, Odomzo (Sonidegib), OEPA, Ofatumumab, OFF, Olaparib, Olaratumab, Omacetaxine Mepesuccinate, Oncaspar (Pegaspargase), Ondansetron Hydrochloride, Onivyde (Irinotecan Hydrochloride Liposome), Ontak (Denileukin Diftitox), Opdivo (Nivolumab), OPPA, Osimertinib, Oxaliplatin, Paclitaxel, Paclitaxel Albumin-stabilized Nanoparticle Formulation, PAD, Palbociclib, Palifermin, Palonosetron Hydrochloride, Palonosetron Hydrochloride and Netupitant, Pamidronate Disodium, Panitumumab, Panobinostat, Paraplat (Carboplatin), Paraplatin (Carboplatin), Pazopanib Hydrochloride, PCV,

PEB, Pegaspargase, Pegfilgrastim, Peginterferon Alfa-2b, PEG-Intron (Peginterferon Alfa-2b), Pembrolizumab, Pemetrexed Disodium, Perjeta (Pertuzumab), Pertuzumab, Platinol (Cisplatin), Platinol-AQ (Cisplatin), Plerixafor, Pomalidomide, Pomalyst (Pomalidomide), Ponatinib Hydrochloride, Portrazza (Necitumumab), Pralatrexate, Prednisone, Procarbazine Hydrochloride, Proleukin (Aldesleukin), Prolia (Denosumab), Promacta (Eltrombopag Olamine), Propranolol Hydrochloride, Provenge (Sipuleucel-T), Purinethol (Mercaptopurine), Purixan (Mercaptopurine), Radium 223 Dichloride, Raloxifene Hydrochloride, Ramucirumab, Rasburicase, R-CHOP, R-CVP, Recombinant Human Papillomavirus (HPV) Bivalent Vaccine, Recombinant Human Papillomavirus (HPV) Nonavalent Vaccine, Recombinant Human Papillomavirus (HPV) Quadrivalent Vaccine, Recombinant Interferon Alfa-2b, Regorafenib, Relistor (Methylnaltrexone Bromide), R-EPOCH, Revlimid (Lenalidomide), Rheumatrex (Methotrexate), Ribociclib, R-ICE, Rituxan (Rituximab), Rituxan Hycela (Rituximab and Hyaluronidase Human), Rituximab, Rituximab and , Hyaluronidase Human, ,Rolapitant Hydrochloride, Romidepsin, Romiplostim, Rubidomycin (Daunorubicin Hydrochloride), Rubraca (Rucaparib Camsylate), Rucaparib Camsylate, Ruxolitinib Phosphate, Rydapt (Midostaurin), Sclerosol Intrapleural Aerosol (Talc), Siltuximab, Sipuleucel-T, Somatuline Depot (Lanreotide Acetate), Sonidegib, Sorafenib Tosylate, Sprycel (Dasatinib), STANFORD V, Sterile Talc Powder (Talc), Steritalc (Talc), Stivarga (Regorafenib), Sunitinib Malate, Sutent (Sunitinib Malate), Sylatron (Peginterferon Alfa-2b), Sylvant (Siltuximab), Synribo (Omacetaxine Mepesuccinate), Tabloid (Thioguanine), TAC, Tafinlar (Dabrafenib), Tagrisso (Osimertinib), Talc, Talimogene Laherparepvec, Tamoxifen Citrate, Tarabine PFS (Cytarabine), Tarceva (Erlotinib Hydrochloride), Targretin (Bexarotene), Tasigna (Nilotinib), Taxol (Paclitaxel), Taxotere (Docetaxel), Tecentriq , (Atezolizumab), Temodar (Temozolomide), Temozolomide, Temsirolimus, Thalidomide, Thalomid (Thalidomide), Thioguanine, Thiotepa, Tisagenlecleucel, Tolak (Fluorouracil - Topical), Topotecan Hydrochloride, Toremifene, Torisel (Temsirolimus), Tositumomab and Iodine I 131 Tositumomab, Totect (Dexrazoxane Hydrochloride), TPF, Trabectedin, Trametinib, Trastuzumab, Treanda (Bendamustine Hydrochloride), Trifluridine and Tipiracil Hydrochloride, Trisenox (Arsenic Trioxide), Tykerb (Lapatinib Ditosylate), Unituxin (Dinutuximab), Uridine Triacetate, VAC, Vandetanib, VAMP, Varubi (Rolapitant Hydrochloride), Vectibix (Panitumumab), VeIP, Velban (Vinblastine Sulfate), Velcade (Bortezomib), Velsar (Vinblastine Sulfate), Vemurafenib, Venclexta (Venetoclax), Venetoclax, Verzenio (Abemaciclib), Viadur (Leuprolide Acetate), Vidaza (Azacitidine), Vinblastine Sulfate, Vincasar PFS (Vincristine Sulfate), Vincristine Sulfate,

Vincristine Sulfate Liposome, Vinorelbine Tartrate, VIP, Vismodegib, Vistogard (Uridine Triacetate), Voraxaze (Glucarpidase), Vorinostat, Votrient (Pazopanib Hydrochloride), Vyxeos (Daunorubicin Hydrochloride and Cytarabine Liposome), Wellcovorin (Leucovorin Calcium), Xalkori (Crizotinib), Xeloda (Capecitabine), XELIRI, XELOX, Xgeva (Denosumab), Xofigo (Radium 223 Dichloride), Xtandi (Enzalutamide), Yervoy (Ipilimumab), Yondelis (Trabectedin), Zaltrap (Ziv-Aflibercept), Zarxio (Filgrastim), Zejula (Niraparib Tosylate Monohydrate), Zelboraf (Vemurafenib), Zevalin (Ibritumomab Tiuxetan), Zinecard (Dexrazoxane Hydrochloride), Ziv-Aflibercept, Zofran (Ondansetron Hydrochloride), Zoladex (Goserelin Acetate), Zoledronic Acid, Zolinza (Vorinostat), Zometa (Zoledronic Acid), Zydelig (Idelalisib), Zykadia (Ceritinib), and/or Zytiga (Abiraterone Acetate).

57. The method of claim 55, wherein the at least one cancer therapeutic agent is selected from a chemotherapy agent (eg CHOP, FLAG, 7+3), a drug based preparative regimen, or a combination thereof. (Cy-Flu, Bu-Flu, Flu-Mel).

The method of any one of claims 31 to 57,

58.41. The use of any one of claims 22 to 40, wherein the infectious disease is caused by a viral infection, bacterial infection, fungal infection, or parasitic infection.

59. The method of claim 58, wherein the viral infection comprises an infection of Herpes Simplex virus-1, Herpes Simplex virus-2, Varicella-Zoster virus, Epstein-Barr virus, Cytomegalovirus, Human Herpes virus-6, Variola virus, Vesicular stomatitis virus, Hepatitis A virus, Hepatitis B virus, Hepatitis C virus, Hepatitis D virus, Hepatitis E virus, Rhinovirus, Coronavirus, Influenza virus A, Influenza virus B, Measles virus, Polyomavirus, Human Papillomavirus, Respiratory syncytial virus, Adenovirus, Coxsackie virus, Dengue virus, Mumps virus, Poliovirus, Rabies virus, Rous sarcoma virus, Reovirus, Yellow fever virus, Zika virus, Ebola virus, Marburg virus, Lassa fever virus, Eastern Equine Encephalitis virus, Japanese Encephalitis virus, St. Louis Encephalitis virus, Murray Valley fever virus, West Nile virus, Rift Valley fever virus, Rotavirus A, Rotavirus B, Rotavirus C, Sindbis virus, Simian Immunodeficiency virus, Human T-cell Leukemia virus type-1, Hantavirus, Rubella virus, Simian Immunodeficiency virus, Human Immunodeficiency virus type-1, or Human Immunodeficiency virus type-2.

60. The method of claim 58, wherein the bacterial infection comprises an infection of *Mycobaterium tuberculosis, Mycobaterium bovis, Mycobaterium bovis* strain BCG, BCG substrains, *Mycobaterium avium, Mycobaterium intracellular, Mycobaterium africanum, Mycobaterium kansasii, Mycobaterium marinum, Mycobaterium ulcerans, Mycobaterium avium*

subspecies paratuberculosis, *Nocardia asteroides*, other *Nocardia species*, *Legionella pneumophila*, other *Legionella* species, *Acetinobacter baumanii, Salmonella typhi, Salmonella enterica*, other *Salmonella species, Shigella boydii, Shigella dysenteriae, Shigella sonnei, Shigella flexneri*, other *Shigella* species, *Yersinia pestis, Pasteurella haemolytica, Pasteurella multocida*, other *Pasteurella* species, *Actinobacillus pleuropneumoniae, Listeria monocytogenes, Listeria ivanovii, Brucella abortus*, other *Brucella* species, *Cowdria ruminantium*, *Borrelia burgdorferi, Bordetella avium, Bordetella pertussis, Bordetella bronchiseptica, Bordetella trematum, Bordetella hinzii, Bordetella pteri, Bordetella parapertussis, Bordetella ansorpii,* other *Bordetella* species, *Burkholderia mallei, Burkholderia psuedomallei, Burkholderia cepacian*, *Chlamydia pneumoniae, Chlamydia trachomatis, Chlamydia psittaci, Coxiella burnetii, Rickettsial* species, *Ehrlichia* species, *Staphylococcus aureus, Staphylococcus epidermidis, Streptococcus pneumoniae, Streptococcus pyogenes, Streptococcus agalactiae, Escherichia coli, Vibrio cholerae, Campylobacter* species, *Neiserria meningitidis, Neiserria gonorrhea, Pseudomonas aeruginosa*, other *Pseudomonas* species, *Haemophilus influenzae, Haemophilus ducreyi*, other *Hemophilus* species, *Clostridium tetani, Clostridium difficile,* other *Clostridium* species, *Yersinia enterolitica*, and other *Yersinia* species, and *Mycoplasma* species.

61. The method of claim 58, wherein the fungal infection comprises an infection of *Candida albicans, Cryptococcus neoformans, Histoplama capsulatum, Aspergillus fumigatus, Coccidiodes immitis, Paracoccidiodes brasiliensis, Blastomyces dermitidis, Pneumocystis carinii, Penicillium marneffi,* or *Alternaria alternate*.

62. The method of claim 58, wherein the parasitic infection comprises an infection of *Toxoplasma gondii*, *Plasmodium falciparum, Plasmodium vivax, Plasmodium malariae, other Plasmodium species, Entamoeba histolytica, Naegleria fowleri, Rhinosporidium seeberi, Giardia lamblia, Enterobius vermicularis, Enterobius gregorii, Ascaris lumbricoides, Ancylostoma duodenale, Necator americanus, Cryptosporidium spp., Trypanosoma brucei, Trypanosoma cruzi, Leishmania major, other Leishmania species, Diphyllobothrium latum, Hymenolepis nana, Hymenolepis diminuta, Echinococcus granulosus, Echinococcus multilocularis, Echinococcus vogeli, Echinococcus oligarthrus, Diphyllobothrium latum, Clonorchis sinensis; Clonorchis viverrini, Fasciola hepatica, Fasciola gigantica, Dicrocoelium dendriticum, Fasciolopsis buski, Metagonimus yokogawai, Opisthorchis viverrini, Opisthorchis felineus, Clonorchis sinensis, Trichomonas vaginalis, Acanthamoeba species, Schistosoma intercalatum, Schistosoma haematobium, Schistosoma japonicum, Schistosoma mansoni*, other

Schistosoma species, *Trichobilharzia regenti, Trichinella spiralis, Trichinella britovi, Trichinella nelsoni, Trichinella nativa*, or *Entamoeba histolytica*.

63. The method of any one of claims 31 to 62, wherein the γδ T cells are formulated in a pharmaceutically acceptable carrier and a pharmaceutically acceptable excipient.

The method of any one of claims 31 to 63, wherein the γδ T cells are administered parenterally, intravenously, intraperitoneally, or subcutaneously, or through arterial infusion, venous infusion, or artificial catheter mediated infusion.