What is claimed is:

1. Use of a JAK inhibitor in the manufacture of a pharmaceutical composition for treating a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD), wherein the human subject has been previously determined to have (i) a baseline concentration of at least one protein selected from the group consisting of IL8, HAOX1, ENPP7, ACE2, SULT2A1, MCP-3, CES1, MFGE8, PLXNB1, TNFRSF10A, CCL15, SEMA4C, PREB, NFATC3, CCL19, DLL1, ENTPD2, IL-4RA, EPHA2, FOSB, CXCL10, VAMP5, ALDH3A1, MVK, IL12RB1, CALCA, AHCY, PRSS2, LILRB4, DDAH1, IL-1ra, NECTIN2, PDCD1, CD74, PD-L1, REG3A, CA5A, N2DL-2, CDCP1, U-PAR, SIGLEC7, ANGPTL4, ALDH1A1, SPINK1, HTRA2, PRDX6, IL-1RT2, IGFBP-1, HNMT, TRAIL-R2, CXADR, CTSL1, IFN-gamma-R1, IL-18R1, KRT19, KYNU, and TGM2 in a biological sample obtained from the human subject that is lower than a control, and/or (ii) a baseline concentration of at least one protein selected from the group consisting of PON3, CNTN1, IGFBP3, LEP, Notch 3, TN-R, HSD11B1, FAM19A5, NCAN, F11, GDF-8, CCL28, GALNT10, BCAN, TIMP4, CRISP2, CD207, WNT9A, MBL2, EN-RAGE, TWEAK, CR2, MFAP5, KIT, GH, PFKM, CDSN, CRH, GCP5, KLK6, and DRAXIN in a biological sample obtained from the human subject that is higher than a control.

2. The use of claim 1, wherein the human subject has been previously determined to have (i) a baseline concentration of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, ALDH1A1, CES1, REG3A, KYNU, IL-4RA, CDCP1, MVK, FOSB, NFATC3, N2DL-2, DDAH1,

IGFBP-1, ALDH3A1, CXADR, PLXNB1, CD74, ENTPD2, PREB, CCL19, HNMT, HTRA2, IL-1RT2, and IL-18R1 in a biological sample obtained from the human subject that is lower than a control, and/or (ii) a baseline concentration of at least one protein selected from the group consisting of PON3, LEP, MBL2, GH, GDF-8, EN-RAGE, CRISP2, and CR2 in a biological sample obtained from the human subject that is higher than a control.

3. The use of claim 1, wherein the human subject has been previously determined to have (i) a baseline concentration of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, and ALDH1A1 in a biological sample obtained from the human subject that is lower than a control, and/or (ii) a baseline concentration of at least one protein selected from the group consisting of PON3, LEP, and MBL2 in a biological sample obtained from the human subject that is higher than a control.

4. The use of claim 1, wherein the human subject has been previously determined to have (i) a baseline concentration of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, and SPINK1 in a biological sample obtained from the human subject that is lower than a control, and/or (ii) a baseline concentration of at least one protein selected from the group consisting of PON3 and LEP in a biological sample obtained from the human subject that is higher than a control.

5. Use of JAK inhibitor in the manufacture of a pharmaceutical composition for treating a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD), wherein:

a biological sample obtained from the human subject before administration of the pharmaceutical composition has a reduced concentration, as compared to a control, of at least one protein selected from the group consisting of IL8, HAOX1, ENPP7, ACE2, SULT2A1, MCP-3, CES1, MFGE8, PLXNB1, TNFRSF10A, CCL15, SEMA4C, PREB, NFATC3, CCL19, DLL1, ENTPD2, IL-4RA, EPHA2, FOSB, CXCL10, VAMP5, ALDH3A1, MVK, IL12RB1, CALCA, AHCY, PRSS2, LILRB4, DDAH1, IL-1ra, NECTIN2, PDCD1, CD74, PD-L1, REG3A, CA5A, N2DL-2, CDCP1, U-PAR, SIGLEC7, ANGPTL4, ALDH1A1, SPINK1, HTRA2, PRDX6, IL-1RT2, IGFBP-1, HNMT, TRAIL-R2, CXADR, CTSL1, IFN-gamma-R1, IL-18R1, KRT19, KYNU, and TGM2, and/or an increased concentration, as compared to a control, of at least one protein selected from the group consisting of PON3, CNTN1, IGFBP3, LEP, Notch 3, TN-R, HSD11B1, FAM19A5, NCAN, F11, GDF-8, CCL28, GALNT10, BCAN, TIMP4, CRISP2, CD207, WNT9A, MBL2, EN-RAGE, TWEAK, CR2, MFAP5, KIT, GH, PFKM, CDSN, CRH, GCP5, KLK6, and DRAXIN.

6. The use of claim 5, wherein:

the biological sample has a reduced concentration, as compared to a control, of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, ALDH1A1, CES1, REG3A, KYNU, IL-4RA, CDCP1, MVK, FOSB, NFATC3, N2DL-2, DDAH1, IGFBP-1, ALDH3A1, CXADR, PLXNB1, CD74, ENTPD2, PREB, CCL19, HNMT, HTRA2, IL-1RT2, and IL-18R1, and/or an increased

concentration, as compared to a control, of at least one protein selected from the group consisting of PON3, LEP, MBL2, GH, GDF-8, EN-RAGE, CRISP2, and CR2; and

administering the therapy comprising the JAK inhibitor to the human subject.

7. The use of claim 5, wherein:

the biological sample has a reduced concentration, as compared to a control, of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, and ALDH1A1, and/or an increased concentration, as compared to a control, of at least one protein selected from the group consisting of PON3, LEP, and MBL2.

8. The use of claim 5, wherein:

the biological sample has a reduced concentration, as compared to a control, of at least one protein selected from the group consisting of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, and SPINK1, and/or an increased concentration, as compared to a control, of at least one protein selected from the group consisting of PON3 and LEP.

9. The use of any one of claims 1 to 8, wherein a second therapeutic agent is to be administered to the human subject in combination with the JAK inhibitor.

10. The use of claim 9, wherein the second therapeutic agent is a corticosteroid, methotrexate, cyclosporine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, antithymocyte globulin, alemtuzumab, cyclophosphamide, ibrutinib, imatinib, infliximab,

etanercept, tocilizumab, alemtuzumab, basiliximab, daclizumab, rituximab, denileukin diftitox, pentostatin, ciclosporin, thalidomide, halofuginone, hydroxychloroquine, or mesenchymal stem cells.

11. The use of claim 9, wherein the second therapeutic agent is a corticosteroid.

12. The use of claim 11, wherein the corticosteroid is methylprednisolone or prednisone.

13. An *in vitro* method of predicting the response of a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD) to a therapy comprising a JAK inhibitor, comprising:

measuring in a biological sample obtained from the subject before the therapy comprising the JAK inhibitor the concentration of at least one protein selected from the group consisting of PON3, CNTN1, IGFBP3, LEP, Notch 3, TN-R, HSD11B1, FAM19A5, NCAN, F11, GDF-8, CCL28, GALNT10, BCAN, TIMP4, CRISP2, CD207, WNT9A, MBL2, EN-RAGE, TWEAK, CR2, MFAP5, KIT, GH, PFKM, CDSN, CRH, GCP5, KLK6, DRAXIN, IL8, HAOX1, ENPP7, ACE2, SULT2A1, MCP-3, CES1, MFGE8, PLXNB1, TNFRSF10A, CCL15, SEMA4C, PREB, NFATC3, CCL19, DLL1, ENTPD2, IL-4RA, EPHA2, FOSB, CXCL10, VAMP5, ALDH3A1, MVK, IL12RB1, CALCA, AHCY, PRSS2, LILRB4, DDAH1, IL-1ra, NECTIN2, PDCD1, CD74, PD-L1, REG3A, CA5A, N2DL-2, CDCP1, U-PAR, SIGLEC7, ANGPTL4, ALDH1A1, SPINK1, HTRA2, PRDX6, IL-1RT2, IGFBP-1, HNMT, TRAIL-R2, CXADR, CTSL1, IFN-gamma-R1, IL-18R1, KRT19, KYNU, and TGM2 in the biological sample,

wherein a reduced concentration, as compared to a control, of at least one of

IL8, HAOX1, ENPP7, ACE2, SULT2A1, MCP-3, CES1, MFGE8, PLXNB1, TNFRSF10A, CCL15, SEMA4C, PREB, NFATC3, CCL19, DLL1, ENTPD2, IL-4RA, EPHA2, FOSB, CXCL10, VAMP5, ALDH3A1, MVK, IL12RB1, CALCA, AHCY, PRSS2, LILRB4, DDAH1, IL-1ra, NECTIN2, PDCD1, CD74, PD-L1, REG3A, CA5A, N2DL-2, CDCP1, U-PAR, SIGLEC7, ANGPTL4, ALDH1A1, SPINK1, HTRA2, PRDX6, IL-1RT2, IGFBP-1, HNMT, TRAIL-R2, CXADR, CTSL1, IFN-gamma-R1, IL-18R1, KRT19, KYNU, or TGM2, and/or an increased concentration, as compared to a control, of at least one of PON3, CNTN1, IGFBP3, LEP, Notch 3, TN-R, HSD11B1, FAM19A5, NCAN, F11, GDF-8, CCL28, GALNT10, BCAN, TIMP4, CRISP2, CD207, WNT9A, MBL2, EN-RAGE, TWEAK, CR2, MFAP5, KIT, GH, PFKM, CDSN, CRH, GCP5, KLK6, or DRAXIN is predictive that the subject will respond to the therapy comprising the JAK inhibitor.

14. The method of claim 13, comprising:

measuring the concentration of at least one protein selected from the group consisting of PON3, LEP, MBL2, GH, GDF-8, EN-RAGE, CRISP2, CR2, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, ALDH1A1, CES1, REG3A, KYNU, IL-4RA, CDCP1, MVK, FOSB, NFATC3, N2DL-2, DDAH1, IGFBP-1, ALDH3A1, CXADR, PLXNB1, CD74, ENTPD2, PREB, CCL19, HNMT, HTRA2, IL-1RT2, and IL-18R1 in the biological sample,

wherein a reduced concentration, as compared to a control, of at least one of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, ALDH1A1, CES1, REG3A, KYNU, IL-4RA, CDCP1, MVK, FOSB, NFATC3, N2DL-2, DDAH1, IGFBP-1, ALDH3A1,

CXADR, PLXNB1, CD74, ENTPD2, PREB, CCL19, HNMT, HTRA2, IL-1RT2, or IL-18R1, and/or an increased concentration, as compared to a control, of at least one of PON3, LEP, MBL2, GH, GDF-8, EN-RAGE, CRISP2, or CR2 is predictive that the subject will respond to the therapy comprising the JAK inhibitor.

15. The method of claim 13, comprising:

measuring the concentration of at least one protein selected from the group consisting of PON3, LEP, MBL2, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, and ALDH1A1 in the biological sample,

wherein a reduced concentration, as compared to a control, of at least one of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, or ALDH1A1, and/or an increased concentration, as compared to a control, of at least one of PON3, LEP, or MBL2 is predictive that the subject will respond to the therapy comprising the JAK inhibitor.

16. The method of claim 13, comprising:

measuring the concentration of at least one protein selected from the group consisting of PON3, LEP, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, and SPINK1 in the biological sample,

wherein a reduced concentration, as compared to a control, of at least one of MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, or SPINK1, and/or an increased concentration, as compared to a control, of at least one of PON3 or LEP is predictive that the subject will respond to the therapy comprising the JAK inhibitor.

17. The use of any one of claims 1 to 12 or the method of any one of claims 13 to 16, wherein the control is a pre-established cut-off value.

18. The use of any one of claims 1 to 12 or the method of any one of claims 13 to 16, wherein the control is the concentration of the protein in a sample or samples obtained from one or more subjects that have not responded to treatment with the JAK inhibitor.

19. An *in vitro* method for measuring the amount of a protein in a sample, comprising:

measuring in a biological sample obtained from a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD) the concentration of at least one protein selected from the group consisting of PON3, CNTN1, IGFBP3, LEP, Notch 3, TN-R, HSD11B1, FAM19A5, NCAN, F11, GDF-8, CCL28, GALNT10, BCAN, TIMP4, CRISP2, CD207, WNT9A, MBL2, EN-RAGE, TWEAK, CR2, MFAP5, KIT, GH, PFKM, CDSN, CRH, GCP5, KLK6, DRAXIN, IL8, HAOX1, ENPP7, ACE2, SULT2A1, MCP-3, CES1, MFGE8, PLXNB1, TNFRSF10A, CCL15, SEMA4C, PREB, NFATC3, CCL19, DLL1, ENTPD2, IL-4RA, EPHA2, FOSB, CXCL10, VAMP5, ALDH3A1, MVK, IL12RB1, CALCA, AHCY, PRSS2, LILRB4, DDAH1, IL-1ra, NECTIN2, PDCD1, CD74, PD-L1, REG3A, CA5A, N2DL-2, CDCP1, U-PAR, SIGLEC7, ANGPTL4, ALDH1A1, SPINK1, HTRA2, PRDX6, IL-1RT2, IGFBP-1, HNMT, TRAIL-R2, CXADR, CTSL1, IFN-gamma-R1, IL-18R1, KRT19, KYNU, and TGM2 in the biological sample.

20. The method of claim 19, comprising measuring the concentration of at least

one protein selected from the group consisting of PON3, LEP, MBL2, GH, GDF-8, EN-RAGE, CRISP2, CR2, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, ALDH1A1, CES1, REG3A, KYNU, IL-4RA, CDCP1, MVK, FOSB, NFATC3, N2DL-2, DDAH1, IGFBP-1, ALDH3A1, CXADR, PLXNB1, CD74, ENTPD2, PREB, CCL19, HNMT, HTRA2, IL-1RT2, and IL-18R1 in the biological sample.

21. The method of claim 19, comprising measuring the concentration of at least one protein selected from the group consisting of PON3, LEP, MBL2, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, SPINK1, ENPP7, ACE2, CTSL1, PRSS2, CXCL10, MFGE8, KRT19, and ALDH1A1 in the biological sample.

22. The method of claim 19, comprising measuring the concentration of at least one protein selected from the group consisting of PON3, LEP, MCP-3, HAOX1, CA5A, CALCA, IL8, SULT2A1, VAMP5, and SPINK1 in the biological sample.

23. The method of any one of claims 19 to 22, wherein the concentrations of no more than 20 proteins are measured.

24. The method of any one of claims 19 to 22, wherein the concentrations of no more than 10 proteins are measured.

25. Use of a JAK inhibitor in the manufacture of a pharmaceutical composition for treating a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD), wherein:

a reduced concentration of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, RELT, CLEC5A, APEX1, PSP-D, FGR, SELE, SELL, MESDC2, IQGAP2, CRTAM, LILRB2, TANK, CPXM1, ARSB, SLAMF1, PEBP1, STIP1, PDGF subunit B, SCARF1, DEFA1, EPHB4, ARHGAP1, CLM-1, DAB2, LYN, CASP-8, APBB1IP, ANXA11, ICAM1, PRKCQ, VCAM1, HDGF, CD2AP, TNFRSF6B, CLEC1A, TNFRSF14, TACC3, MMP-1, NRP1, ZBTB17, NADK, PLXNA4, MMP-9, NCR1, AMIGO2, FES, CD79B, TNXB, TXNDC5, TRANCE, ARG1, PCDH17, LRMP, C1QTNF1, CLM-6, CKAP4, APP, PGLYRP1, LILRA5, CLEC10A, NMNAT1, IL-6RA, ATG4A, TIMP1, COCH, DKN1A, CD1C, DECR1, DAG1, IGFBP-2, RET, GSAP, PILRB, CLEC6A, PECAM-1, PXN, ADGRG1, DPP7,

TDRKH, Siglec-9, CD40-L, VEGFC, LYVE1, FADD, FCRL1, EGF, HGF, GZMH, CLEC4G, LY75, PRDX3, COL4A1, CEACAM8, SEMA7A, NUDT5, FCRL6, PAPPA, FASLG, GRN, and MATN3, and/or an increased concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, ITGB5, GT, APLP1, TACSTD2, NINJ1, REN, GCG, SERPINA9, KAZALD1, SERPINA12, PODXL, AMN, IGF1R, LTBP2, ANGPTL3, SCARA5, B4GAT1, ROBO2, PDGFC, CA12, DDC, EDIL3, XPNPEP2, PRTG, NQO2, AMBP, ERBB2, IL6, MCP-1, VEGFD, GDF-2, MUC-16, KLK10, FAM3C, uPA, AGR2, METRNL, RTN4R, IGF2R, NTRK2, ITGB6, SCARF2, SCGB3A2, RGMB, EZR, PROC, FURIN, PIgR, and SMOC2 is present in a second biological sample obtained from the human subject after administration of the pharmaceutical composition compared to the concentration of the protein in a first biological sample obtained from the human subject before administration with the pharmaceutical composition.

26. The use of claim 25, wherein:

a reduced concentration of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3,

CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, and RELT, and/or an increased concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, and GPNMB is present in a second biological sample obtained from the human subject after administration of the pharmaceutical composition compared to the concentration of the protein in a first biological sample obtained from the human subject before administration with the pharmaceutical composition.

27. The use of claim 25, wherein:

a reduced concentration of at least one protein selected from the group

consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, and HAVCR2, and/or an increased concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, and KIM1 is present in a second biological sample obtained from the human subject after administration of the pharmaceutical composition compared to the concentration of the protein in a first biological sample obtained from the human subject before administration with the pharmaceutical composition.

28. The use of claim 25, wherein:

a reduced concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, and CNTNAP2, and/or an increased concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, and CCL25 is present in a second biological sample obtained from the human subject after administration of the pharmaceutical composition compared to the concentration of the protein in a first biological sample obtained from the human subject before administration with the pharmaceutical composition.

29. The use of claim 25, wherein:

a reduced concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, and ITGB2, and/or an increased concentration, as compared to the first biological sample, of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, and NCAM1 is present in a second biological sample obtained from the human subject after administration of the pharmaceutical composition compared to the concentration of the protein in a first biological sample obtained from the human subject before administration with the pharmaceutical composition.

30. The use of any one of claims 25 to 29, wherein a second therapeutic agent is to be administered to the human subject in combination with the JAK inhibitor.

31. The use of claim 30, wherein the second therapeutic agent is a corticosteroid, methotrexate, cyclosporine, mycophenolate mofetil, tacrolimus, sirolimus, everolimus, antithymocyte globulin, alemtuzumab, cyclophosphamide, ibrutinib, imatinib, infliximab, etanercept, tocilizumab, alemtuzumab, basiliximab, daclizumab, rituximab, denileukin diftitox, pentostatin, ciclosporin, thalidomide, halofuginone, hydroxychloroquine, or mesenchymal stem cells.

32. The use of claim 30, wherein the second therapeutic agent is a corticosteroid.

33. The use of claim 32, wherein the corticosteroid is methylprednisolone or prednisone.

34. An *in vitro* method of identifying a therapeutic response of a human subject having, suspected of having, or at risk of developing Graft-Versus-Host Disease (GvHD) to a therapy comprising a JAK inhibitor, comprising:

measuring in a first biological sample obtained from the human subject before the therapy comprising the JAK inhibitor is administered the concentration of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, RELT, CLEC5A, APEX1, PSP-D, FGR, SELE, SELL, MESDC2, IQGAP2, CRTAM, LILRB2, TANK, CPXM1, ARSB, SLAMF1, PEBP1, STIP1, PDGF subunit B, SCARF1, DEFA1, EPHB4, ARHGAP1, CLM-1, DAB2, LYN, CASP-8,

APBB1IP, ANXA11, ICAM1, PRKCQ, VCAM1, HDGF, CD2AP, TNFRSF6B, CLEC1A, TNFRSF14, TACC3, MMP-1, NRP1, ZBTB17, NADK, PLXNA4, MMP-9, NCR1, AMIGO2, FES, CD79B, TNXB, TXNDC5, TRANCE, ARG1, PCDH17, LRMP, C1QTNF1, CLM-6, CKAP4, APP, PGLYRP1, LILRA5, CLEC10A, NMNAT1, IL-6RA, ATG4A, TIMP1, COCH, DKN1A, CD1C, DECR1, DAG1, IGFBP-2, RET, GSAP, PILRB, CLEC6A, PECAM-1, PXN, ADGRG1, DPP7, TDRKH, Siglec-9, CD40-L, VEGFC, LYVE1, FADD, FCRL1, EGF, HGF, GZMH, CLEC4G, LY75, PRDX3, COL4A1, CEACAM8, SEMA7A, NUDT5, FCRL6, PAPPA, FASLG, GRN, MATN3, TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, ITGB5, GT, APLP1, TACSTD2, NINJ1, REN, GCG, SERPINA9, KAZALD1, SERPINA12, PODXL, AMN, IGF1R, LTBP2, ANGPTL3, SCARA5, B4GAT1, ROBO2, PDGFC, CA12, DDC, EDIL3, XPNPEP2, PRTG, NQO2, AMBP, ERBB2, IL6, MCP-1, VEGFD, GDF-2, MUC-16, KLK10, FAM3C, uPA, AGR2, METRNL, RTN4R, IGF2R, NTRK2, ITGB6, SCARF2, SCGB3A2, RGMB, EZR, PROC, FURIN, PIgR, and SMOC2 in the first biological sample;

and

measuring in a second biological sample obtained from the subject after the therapy comprising the JAK inhibitor has been administered the concentration of at least one protein selected from the group consisting of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1,

MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, RELT, CLEC5A, APEX1, PSP-D, FGR, SELE, SELL, MESDC2, IQGAP2, CRTAM, LILRB2, TANK, CPXM1, ARSB, SLAMF1, PEBP1, STIP1, PDGF subunit B, SCARF1, DEFA1, EPHB4, ARHGAP1, CLM-1, DAB2, LYN, CASP-8, APBB1IP, ANXA11, ICAM1, PRKCQ, VCAM1, HDGF, CD2AP, TNFRSF6B, CLEC1A, TNFRSF14, TACC3, MMP-1, NRP1, ZBTB17, NADK, PLXNA4, MMP-9, NCR1, AMIGO2, FES, CD79B, TNXB, TXNDC5, TRANCE, ARG1, PCDH17, LRMP, C1QTNF1, CLM-6, CKAP4, APP, PGLYRP1, LILRA5, CLEC10A, NMNAT1, IL-6RA, ATG4A, TIMP1, COCH, DKN1A, CD1C, DECR1, DAG1, IGFBP-2, RET, GSAP, PILRB, CLEC6A, PECAM-1, PXN, ADGRG1, DPP7, TDRKH, Siglec-9, CD40-L, VEGFC, LYVE1, FADD, FCRL1, EGF, HGF, GZMH, CLEC4G, LY75, PRDX3, COL4A1, CEACAM8, SEMA7A, NUDT5, FCRL6, PAPPA, FASLG, GRN, MATN3, TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1,

Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, ITGB5, GT, APLP1, TACSTD2, NINJ1, REN, GCG, SERPINA9, KAZALD1, SERPINA12, PODXL, AMN, IGF1R, LTBP2, ANGPTL3, SCARA5, B4GAT1, ROBO2, PDGFC, CA12, DDC, EDIL3, XPNPEP2, PRTG, NQO2, AMBP, ERBB2, IL6, MCP-1, VEGFD, GDF-2, MUC-16, KLK10, FAM3C, uPA, AGR2, METRNL, RTN4R, IGF2R, NTRK2, ITGB6, SCARF2, SCGB3A2, RGMB, EZR, PROC, FURIN, PIgR, and SMOC2 in the second biological sample,

wherein a reduced concentration in the second biological sample, as compared to the first biological sample, of at least one of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1,

STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, RELT, CLEC5A, APEX1, PSP-D, FGR, SELE, SELL, MESDC2, IQGAP2, CRTAM, LILRB2, TANK, CPXM1, ARSB, SLAMF1, PEBP1, STIP1, PDGF subunit B, SCARF1, DEFA1, EPHB4, ARHGAP1, CLM-1, DAB2, LYN, CASP-8, APBB1IP, ANXA11, ICAM1, PRKCQ, VCAM1, HDGF, CD2AP, TNFRSF6B, CLEC1A, TNFRSF14, TACC3, MMP-1, NRP1, ZBTB17, NADK, PLXNA4, MMP-9, NCR1, AMIGO2, FES, CD79B, TNXB, TXNDC5, TRANCE, ARG1, PCDH17, LRMP, C1QTNF1, CLM-6, CKAP4, APP, PGLYRP1, LILRA5, CLEC10A, NMNAT1, IL-6RA, ATG4A, TIMP1, COCH, DKN1A, CD1C, DECR1, DAG1, IGFBP-2, RET, GSAP, PILRB, CLEC6A, PECAM-1, PXN, ADGRG1, DPP7, TDRKH, Siglec-9, CD40-L, VEGFC, LYVE1, FADD, FCRL1, EGF, HGF, GZMH, CLEC4G, LY75, PRDX3, COL4A1, CEACAM8, SEMA7A, NUDT5, FCRL6, PAPPA, FASLG, GRN, and/or MATN3, and/or an increased concentration in the second biological sample, as compared to the first biological sample, of at least one of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, ITGB5, GT, APLP1, TACSTD2, NINJ1, REN, GCG, SERPINA9, KAZALD1, SERPINA12, PODXL, AMN, IGF1R, LTBP2, ANGPTL3, SCARA5, B4GAT1, ROBO2, PDGFC, CA12, DDC, EDIL3, XPNPEP2, PRTG, NQO2, AMBP, ERBB2, IL6, MCP-1, VEGFD, GDF-2, MUC-16, KLK10, FAM3C, uPA, AGR2, METRNL, RTN4R, IGF2R, NTRK2, ITGB6, SCARF2, SCGB3A2, RGMB, EZR, PROC, FURIN, PIgR, and/or SMOC2 indicates that the

human subject has undergone a therapeutic response to the therapy comprising the JAK inhibitor.

35. The method of claim 34, comprising:

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-

gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, and RELT in the first biological sample; and

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, GPNMB, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, and RELT in the second biological sample,

wherein a reduced concentration in the second biological sample, as compared to the first biological sample, of at least one of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, HAVCR2, CD84, STX8, LY9, ZBTB16, CD200R1, TOP2B, THY 1, PRKRA, ITGB1BP2, CD48, CD244, HCLS1, MPO, SIT1, ICAM3, SOST, DDX58, TNF-R2, TRAF2, SMAD1, LAIR-2, PIK3AP1, VSIG4, SIGLEC10, CD6, SKAP1, FCRL5, CD177, KLRD1, ERBB2IP, MILR1, MIF, SNAP23, NUB1, TIGAR, STAMPB, DSC2, LAIR1, FKBP1B, RASSF2, FATC1, CBL, IgG Fc receptor II-b, GLO1, PVALB, SCAMP3, SLAMF8, STX16, TNF-R1, DFFA, PPP1R2, ANG-1, CCL5, MAP2K6, CRKL, CD38, CXCL5, PILRA, IRAK1, CA13, STX6, PRTN3, IL-5R-alpha, ESM-1, EGLN1, CLEC1B, TYMP, SNAP29, PDGF subunit A, TNFRSF11A, gal-8, GCNT1, STK4, TNC, THBS4, CLEC4D, SIGLEC6, WASF1, WAS, COMT, RETN, SH2D1A, RNASE3, PAR-1, CD69, SIGLEC1, FR-gamma, ADAM 8, AZU1, AREG, SDC4, DCTN2, BID, and RELT, and/or an increased concentration in the second biological sample, as compared to the first biological sample, of at least one of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, Flt3L, PLIN1, SPON2, Gal-4, FABP4, DNER, GAL, CPM, VWC2, PPY, PAM, PVR, SERPINA5, ST3GAL1, CST5, CES2, CNDP1, CX3CL1, HO-1, PRELP, ADM, VSIG2, FABP2, CEACAM5, SLITRK2, MCP-1, NTRK3, CLUL1, CXCL16, SCF, TMPRSS5, REG4, hK11, SCGB3A1, DKKL1, NEP, CPA2, Ep-CAM, THBS2, and GPNMB indicates that the human subject has undergone a therapeutic response to the therapy comprising the

JAK inhibitor.

36. The method of claim 34, comprising:

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, and HAVCR2 in the first biological sample; and

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, KIM1, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1, MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, and HAVCR2 in the second biological sample,

wherein a reduced concentration in the second biological sample, as compared to the first biological sample, of at least one of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, CNTNAP2, ZBTB16, CD163, TXLNA, MEPE, BACH1,

MAX, NFKBIE, hOSCAR, LAT, PTPRJ, SIRT2, SIRPB1, AXIN1, EIF4G1, PTX3, TRIM5, IDUA, NCF2, SELP, ARHGEF12, CASP-3, CD27, MAP4K5, DAPP1, PRDX5, TLT-2, PARK7, IL2-RA, FOXO1, ST1A1, GRAP2, NBN, CD93, FCGR2A, DCTN1, IRF9, and HAVCR2, and/or an increased concentration in the second biological sample, as compared to the first biological sample, of at least one of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, THPO, hK14, and KIM1 indicates that the human subject has undergone a therapeutic response to the therapy comprising the JAK inhibitor.

37. The method of claim 34, comprising:

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, and CNTNAP2 in the first biological sample; and

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, CCL25, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, and CNTNAP2 in the second biological sample,

wherein a reduced concentration in the second biological sample, as compared to the first biological sample, of at least one of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, ITGB2, BANK1, TPSAB1, YES1, LAMP3, GM-CSF-R-alpha, and CNTNAP2, and/or an increased concentration in the second biological sample, as compared to the first biological sample, of at least one of

TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, Gal-3, and CCL25 indicates that the human subject has undergone a therapeutic response to the therapy comprising the JAK inhibitor.

38. The method of claim 34, comprising:

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, and ITGB2 in the first biological sample; and

measuring the concentration of at least one protein selected from the group consisting of TMPRSS15, CCL11, FAM3B, MMP7, NCAM1, INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, and ITGB2 in the second biological sample,

wherein a reduced concentration in the second biological sample, as compared to the first biological sample, of at least one of INPPL1, LAT2, CLEC7A, PPP1R9B, NEMO, SH2B3, BCR, CD5, DNAJB1, CCL17, and ITGB2, and/or an increased concentration in the second biological sample, as compared to the first biological sample, of at least one of TMPRSS15, CCL11, FAM3B, MMP7, and NCAM1 indicates that the human subject has undergone a therapeutic response to the therapy comprising the JAK inhibitor.

39. The use of any one of claims 1 to 12, 17, 18, and 25 to 33 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 38, wherein the biological sample is blood, serum, plasma, urine, spinal fluid, saliva, lacrimal fluid, or sweat.

40. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 39, wherein the biological sample is blood, serum, or plasma.

41. The use of any one of claims 1 to 12, 17, 18, 25 to 33, 39 and 40 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 40, wherein the concentration of the protein has been measured by an immunological method.

42. The use or method of claim 41, wherein the immunological method is selected from the group consisting of enzyme-linked immunosorbent assay, enzyme immunoassay, radioimmunoassay, chemiluminescent immunoassay, electrochemiluminescence immunoassay, latex turbidimetric immunoassay, latex photometric immunoassay, immuno-chromatographic assay, and western blotting.

43. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 to 42 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 42, wherein the concentration of the protein has been measured by mass spectrometry.

44. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 to 43 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 43, wherein the JAK inhibitor is itacitinib.

45. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 to 44 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 44, wherein the JAK inhibitor is 4-[3-(cyanomethyl)-3-(3',5'-dimethyl-1H,1'H-4,4'-bipyrazol-1-yl)azetidin-1-yl]-2,5-

difluoro-N-[(1S)-2,2,2-trifluoro-1-methylethyl]benzamide or a pharmaceutically acceptable salt thereof or ((2R,5S)-5-{2-[(1R)-1-hydroxyethyl]-1H-imidazo[4,5-d]thieno[3,2-b]pyridin-1-yl}tetrahydro-2H-pyran-2-yl)acetonitrile or a pharmaceutically acceptable salt thereof.

46. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 to 45 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 45, wherein the GvHD is acute GvHD.

47. The use of any one of claims 1 to 12, 17, 18, 25 to 33 and 39 to 45 or the method of any one of claims 13 to 16, 17 to 24, or 34 to 46, wherein the GvHD is chronic GvHD.