We claim:

1) An isolated monoclonal antibody that binds to and neutralizes a biological activity of a human interferon omega (IFN-ω) and at least three, four, five, six, seven, eight, nine, ten or eleven human interferon alpha (IFN-α) subtypes.
2) The antibody of claim 1, wherein the biological activity of the human IFN-ω and the human IFN-α subtypes is the human IFN-ω or the human IFN-α subtype-induced expression of secreted embryonic alkaline phosphatase (SEAP) under interferon inducible ISG54 promoter in HEK293 cells stably expressing signal transducer and activator of transcription 2 (STAT2), interferon regulatory factor 9 (IRF9) and SEAP.
3) The antibody of claim 2, wherein the antibody neutralizes the biological activity of the human IFN-ω with an IC_{50} value of at least about $1x10^{-9}$M or less, about $1x10^{-10}$ M or less, about $5x10^{-11}$M or less, or about $1x10^{-11}$M or less.
4) The antibody of claim 3, wherein the antibody neutralizes the biological activity of the human IFN-ω with an IC_{50} value of at least about $1x10^{-10}$ M or less.
5) The antibody of claim 4, wherein the antibody neutralizes the activity of the human IFN-ω with an IC_{50} value of between about $1x10^{-10}$ M to about $6x10^{-12}$ M.
6) The antibody of claim 5, wherein the antibody neutralizes the activity of at least three, four, five, six, seven, eight, nine, ten or eleven human IFN-α subtypes with an IC_{50} value of at least about $2x10^{-10}$ M or less, about 1.5×10^{-10} M or less, or about $1x10^{-10}$ M or less.
7) The antibody of claim 6, wherein the IFN-α subtypes are selected from the group consisting of IFN-αA, IFN-αB2, IFN-αC, IFN-αF, IFN-αG, IFN-αH2, IFN-αI, IFN-αJ1, IFN-αK, IFN-αWA and IFN-α4a.
8) The antibody of claim 6, comprising
   a) the HCDR1 amino acid sequence of SEQ ID NO: 109;
   b) the HCDR2 amino acid sequences of SEQ ID NOs: 111, 112 or 113;
   c) the HCDR3 amino acid sequences of SEQ ID NOs: 115 or 116;
   d) the LCDR1 amino acid sequences of SEQ ID NOs: 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90 or 91;
   e) the LCDR2 amino acid sequences of SEQ ID NOs: 93, 94 or 95; and
   f) the LCDR3 amino acid sequences of SEQ ID NOs: 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106 or 107.

9) The antibody of claim 8, wherein the antibody comprises heavy chain complementarity determining region (HCDR) 1 (HCDR1), 2 (HCDR2) and 3 (HCDR3) amino acid sequences of SEQ ID NOs: 109, 113 and 116, respectively, and light chain complementarity determining region (LCDR) 1 (LCDR1), 2 (LCDR2) and 3 (LCDR3) amino acid sequences of SEQ ID NOs: 82, 94 and 99, respectively.

10) The antibody of claim 6, wherein the antibody comprises heavy chain complementarity determining region (HCDR) 1 (HCDR1), 2 (HCDR2) and 3 (HCDR3) amino acid sequences of SEQ ID NOs: 109, 114 and 121, respectively, and light chain complementarity determining region (LCDR) 1 (LCDR1), 2 (LCDR2) and 3 (LCDR3) amino acid sequences of SEQ ID NOs: 118, 119 and 120, respectively.

11) The antibody of claim 6, wherein the antibody neutralizes at least six human IFN-α subtypes selected from the group consisting of IFN-αA, IFN-αB2, IFN-αC, IFN-αF, IFN-αG, IFN-αH2, IFN-αI, IFN-αJ1, IFN-αK, IFN-αWA and IFN-α4a.

12) The antibody of claim 11, wherein the antibody comprises the HCDR1, the HCDR2, the HCDR3, the LCDR1, the LCDR2 and the LCDR3 amino acid sequences of SEQ ID NOs: 109, 114, 121, 159, 119 and 160, respectively.

13) The antibody of claim 6, wherein the antibody neutralizes at least ten human IFN-α subtypes selected from the group consisting of IFN-αA, IFN-αB2, IFN-αC, IFN-αF, IFN-αG, IFN-αH2, IFN-αI, IFN-αJ1, IFN-αK, IFN-αWA and IFN-α4a.

14) The antibody of claim 13, wherein the antibody binds human IFN-ω of SEQ ID NO: 1 at least at amino acid residues F27, L30 and R33.

15) The antibody of claim 14, wherein the antibody comprises the HCDR1, the HCDR2, the HCDR3, the LCDR1, the LCDR2 and the LCDR3 amino acid sequences of SEQ ID NOs: 109, 114, 121, 161, 119 and 162, respectively.

16) The antibody of claim 15, wherein the antibody neutralizes at least the human IFN-α subtypes IFN-αA, IFN-αB2, IFN-αC, IFN-αF, IFN-αG, IFN-αH2, IFN-αJ1 and IFN-α4a.

17) The antibody of claim 16, wherein the antibody further neutralizes IFN-αI, IFN-αK or IFN-αWA.

18) The antibody of claim 14, wherein the antibody

a) inhibits leukocyte interferon-induced IP-10 release in whole blood induced by 250U/ml of interferon by about 50% or more in the presence of 10 μg/ml antibody than in the absence of the antibody; or

b) inhibits systemic lupus erythematosus (SLE) immune complex-induced IP-10 release in whole blood by about 50% or more in the presence of 10 μg/ml antibody than in the absence of the antibody.

19) The antibody of claim 5, wherein the antibody comprises a heavy chain variable region (VH) amino acid sequence at least 90%, 95% or 97% identical to SEQ ID NO: 28 and a light chain variable region (VL) amino acid sequences at least 90%, 95% or 97% identical to SEQ ID NO: 150.

20) The antibody of claim 19, comprising the HCDR1, the HCDR2, the HCDR3, the LCDR1, the LCDR2 and the LCDR3 sequences of SEQ ID NOs:

a) 109, 113, 116, 77, 93 and 104, respectively;

b) 109, 113, 116, 85, 93 and 96, respectively;

c) 109, 113, 115, 79, 95 and 107, respectively;

d) 109, 113, 116, 76, 93 and 103, respectively;

e) 109, 113, 115, 85, 93 and 96, respectively;

f) 109, 113, 115, 89, 95 and 100, respectively;

g) 109, 113, 116, 86, 93 and 105, respectively;

h) 109, 113, 115, 76, 93 and 103, respectively;

i) 109, 113, 116, 80, 93 and 97, respectively;

j) 109, 113, 116, 84, 93 and 97, respectively;

k) 109, 113, 116, 90, 93 and 97, respectively;

l) 109, 113, 116, 88, 93 and 102, respectively;

m) 109, 113, 116, 87, 93 and 105, respectively;

n) 109, 113, 116, 91, 93 and 106, respectively;

o) 109, 113, 115, 80, 93 and 97, respectively;

p) 109, 113, 116, 83, 93 and 101, respectively;

q) 109, 113, 116, 82, 94 and 98, respectively;

r) 109, 113, 115, 78, 95 and 100, respectively;

s) 109, 111, 116, 81, 93 and 106, respectively;

t) 109, 113, 116, 82, 94 and 99, respectively;

u) 109, 113, 115, 81, 93 and 106, respectively;

v) 109, 112, 116, 81, 93 and 106, respectively; or

w) 109, 113, 116, 81, 93 and 106, respectively.

21) The antibody of claim 20, wherein the antibody is humanized or human.

22) The antibody of claim 21, wherein the human antibody heavy chain variable region framework is derived from human germline gene IGHV5-51 (SEQ ID NO: 155).

23) The antibody of claim 22, wherein the human antibody light chain variable region framework is derived from human germline gene IGKV1D-39 (SEQ ID NO: 156).

24) The antibody of claim 21, wherein the antibody is of IgG1, IgG2, IgG3 or IgG4 subtype.

25) The antibody of claim 24, wherein the antibody has at least one substitution in an Fc region.

26) The antibody of claim 25, wherein the wherein the substitution comprises a substitution M252Y/S254T/T256E, V234A/G237A/P238S/H28A/V309L/A330S/P331S or P238S/L234A/L235A, wherein residue numbering is according to the EU numbering.

27) The antibody of claim 19 comprising a heavy chain variable region (VH) and a light chain variable region (VL), wherein the

a) VH comprises the amino acid sequence of SEQ ID NOs: 28, 31, 157 or 158.

28) The antibody of claim 27, wherein the VL comprises the amino acid sequence of SEQ ID NOs: 35, 39, 40, 42, 46, 52, 53, 54, 57, 61, 62, 68, 71, 73, 75, 135 or 150.

29) The antibody of claim 28 comprising the VH and the VL of SEQ ID NOs:

a) 28 and 40, respectively;

b) 28 and 39, respectively;

c) 31 and 62, respectively;

d) 28 and 54, respectively;

e) 31 and 39, respectively;

f) 31 and 68, respectively;

g) 28 and 42, respectively;

h) 31 and 54, respectively;

i) 28 and 53, respectively;

j) 28 and 73, respectively;

k) 28 and 75, respectively;

l) 28 and 52, respectively;

m) 28 and 35, respectively;

n) 28 and 135, respectively;

o) 31 and 53, respectively;

p) 28 and 46, respectively;

q) 28 and 61, respectively;

r) 31 and 57, respectively;

s) 157 and 71, respectively;

t) 28 and 150, respectively;

u) 31 and 71, respectively;

v) 158 and 71, respectively; or

w) 28 and 71, respectively.

30) The antibody of claims 19, comprising a VH amino acid sequence of SEQ ID NO: 28 and a VL amino acid sequence of SEQ ID NO: 150.

31) The antibody of claim 1, 20 or 29, wherein the antibody is bispecific.

32) The antibody of claim 31, wherein the antibody binds BLyS, CD40L, IL-6, CD27, BDCA2, IL-12, IL-23, IFN-αD, IL-17, CD20, IL-10, CD22, IL-21, ICOS, ICOSL or IFN-γ.

33) A pharmaceutical composition comprising the antibody of claim 1, 20 or 29 and a pharmaceutically accepted carrier.

34) A polynucleotide encoding (i) the antibody VH or VL of claim 20 or 29, or (ii) the antibody VH and VL of claim 20 or 29.

35) A vector comprising the polynucleotide of claim 35.

36) A host cell comprising the vector of claim 35.

37) A method of producing an antibody, comprising culturing the host cell of claim 36 in conditions that the antibody is expressed, and recovering the antibody produced by the host cell.

38) Use of an antibody of claim 1, 20 or 29 in the manufacture of a medicament for the treatment of an immune-mediated inflammatory disease, an autoimmune disease or chronic viral infection.

39) The use of claim 38, wherein the immune-mediated inflammatory disease or the autoimmune disease is lupus, psoriasis, immune thrombocytopenia (ITP), Aicardi-Goutieres syndrome (AGS), systemic sclerosis, Sjögren's syndrome, myositis,

common variable immune deficiency (CVID), autoimmune thyroid disease, type I diabetes, rheumatoid arthritis, transplant rejection or graft versus host disease (GVHD).

40) The use of claim 39, wherein lupus is systemic lupus erythematosus (SLE) or cutaneous lupus erythematosus (CLE).

41) The use of claim 40, wherein the patient has lupus nephritis.

42) The use of claim 38, wherein the patient exhibits a Type I interferon signature.

43) The use of claim 38, wherein the chronic viral infection is HIV or hepatitis C infection.

44) The use of claim 38, wherein the antibody comprises the antibody of claim 20 or 29.

45) The use of claim 38, wherein the antibody is a bispecific antibody.

46) The use of claim 45, wherein the bispecific antibody neutralizes BLyS, CD40L, IL-6, CD27, BDCA2, IL-12, IL-23, IFN-αD, IL-17, CD20, IL-10, CD22, IL-21, ICOS, ICOSL or IFN-γ.

47) The use of claim 38, where in the use further comprises a second therapeutic agent.

48) The use of claim 47, wherein the second therapeutic agent is an antibody that binds BLyS, CD40L, IL-6, CD27, BDCA2, IL-12, IL-23, IFN-αD, IL-17, CD20, IL-10, CD22, IL-21, ICOS, ICOSL or IFN-γ.

49) The use of claim 47, wherein the second therapeutic agent is a corticosteroid, an antimalarial drug, an immunosuppressant, a cytotoxic drug, or a B-cell modulator.

50) The use of claim 49, wherein the second therapeutic agent is prednisone, prednisolone, methylprednisolone, deflazcort, hydroxychloroquine, azathioprine, methotrexate, cyclophosphamide, mycophenolate mofetil (MMF), mycophenolate sodium, cyclosporine, leflunomide, tacrolimus, rituximab™ or belimumab™.

51) The antibody of any of claims 1-32, wherein the antibody does not neutralize IFN-αD, IFN-α1 and/or IFN-β.