

polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both. In one aspect, the present disclosure refers to an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide, wherein the antibody binds the extracellular domain of a human SIRP- α v1 polypeptide, the extracellular domain of a human SIRP- α v2 polypeptide, or both; and wherein the antibody comprises:

(a) a heavy chain variable (VH) domain comprising:

(i) an HVR-H1 sequence comprising the amino acid sequence of SX_1AX_2S , wherein X_1 is N or Y; and wherein X_2 is M, L, or V (SEQ ID NO:302);

(ii) an HVR-H2 sequence comprising the amino acid sequence of $GISX_1GX_2X_3DTYYX_4X_5SVKG$, wherein X_1 is A or S; X_2 is G or absent; X_3 is S or G; X_4 is P, G, or V; and X_5 is A or D (SEQ ID NO:303); and

(iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193); and

(b) a light chain variable (VL) domain comprising:

(i) an HVR-L1 sequence comprising the amino acid sequence of $SGGX_1YSSYYA$, wherein X_1 is S or A (SEQ ID NO:304);

(ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336); and

(iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172). In some examples, the antibody binds an extracellular domain of a human SIRP- α v1 polypeptide comprising the amino acid sequence of

EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPRVTTVSDLTK RNNMDFSIRIGNITPADAGTYCYVKFRKGSPDDVEFKSGAGTELSVRAKPS (SEQ ID NO:5). In some examples, the antibody binds an extracellular domain of a human SIRP- α v2 polypeptide comprising the amino acid sequence of

EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRVTTVSESTK RENMDFSISISNITPADAGTYCYVKFRKGSPDTEFKSGAGTELSVRAKPS (SEQ ID NO:6). In some

examples, the antibody binds an extracellular domain of a human SIRP- α v1 polypeptide comprising the amino acid sequence of

EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPRVTTVSDLTK RNNMDFSIRIGNITPADAGTYCYVKFRKGSPDDVEFKSGAGTELSVRAKPS (SEQ ID NO:5) and

binds an extracellular domain of a human SIRP- α v2 polypeptide comprising the amino acid sequence of EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRVTTVSESTK RENMDFSISISNITPADAGTYCYVKFRKGSPDTEFKSGAGTELSVRAKPS (SEQ ID NO:6). In some

examples, the antibody binds the extracellular domains (e.g., the D1 domains) of three, four, five, six, seven, eight, nine or ten different human SIRP- α variant polypeptides. In some examples, each of the three, four, five, six, seven, eight, nine or ten different human SIRP- α variant polypeptides comprises an extracellular domain comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 5, 6, and 76-83. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide. In some examples, the monkey SIRP- α polypeptide is a cynomolgus SIRP- α polypeptide. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of at least two different monkey SIRP- α variant polypeptides. In some examples, the antibody binds an extracellular domain of a cynomolgus SIRP- α polypeptide comprising the amino acid sequence of SEQ ID NO:11, an extracellular domain of a cynomolgus SIRP- α polypeptide comprising the amino acid sequence of SEQ ID NO:12, or both. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a murine SIRP- α

polypeptide. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different murine SIRP- α variant polypeptides. In some examples, the antibody binds an extracellular domain of one or more murine SIRP- α polypeptides, and wherein the one or more murine SIRP- α polypeptides each comprise an amino acid sequence selected from the group consisting of SEQ ID NOs: 7-10. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide. In some examples, the antibody does not bind an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide. In some examples, the antibody does not bind an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide. In some examples, the antibody binds the extracellular domain of a human SIRP- β polypeptide comprising the amino acid sequence of SEQ ID NO:13, the extracellular domain of a human SIRP- β polypeptide comprising the amino acid sequence of SEQ ID NO:14, or both. In some examples, the antibody binds the extracellular domain of a human SIRP- γ polypeptide comprising the amino acid sequence of SEQ ID NO:15. In some examples, the antibody modulates SIRP- α signaling in a cell expressing a human SIRP- α polypeptide. In some examples, the cell is a leukocyte selected from the group consisting of a macrophage, a dendritic cell, a neutrophil, an eosinophil, and a myeloid-derived suppressor cell (MDSC). In some examples, the antibody inhibits SIRP- α signaling in a macrophage expressing a human SIRP- α polypeptide. In some examples, the antibody enhances phagocytosis by a macrophage expressing a human SIRP- α polypeptide. In some examples, the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell and an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, the antibody does not bind a complex comprising a SIRP- α D1 variant bound to an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47. In some examples, the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α

polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell and an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, the antibody binds a complex comprising a SIRP- α D1 variant bound to an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide increases k_{off} of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell increases k_{off} of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; and wherein the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; and wherein the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular

domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; and wherein binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In

some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both; wherein the antibody binds the extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide; and wherein binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domains (e.g., the D1 domain) of two or more different human SIRP- α variant polypeptides, a murine SIRP- α polypeptide, and a monkey SIRP- α polypeptide; wherein the antibody does not bind at least one of an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide and an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide; and wherein the antibody blocks binding between the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from antibody S130. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different human SIRP- α variant polypeptides, a murine SIRP- α polypeptide, a monkey SIRP- α polypeptide, and at least one of an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide and an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide; and wherein the antibody blocks binding between the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from an antibody selected from the group consisting of S8, S13, S14, and S121. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different human SIRP- α variant polypeptides, a murine SIRP- α polypeptide, and a monkey SIRP- α

polypeptide; wherein the antibody does not bind, or binds with reduced affinity to, at least one of an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide and an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide; and wherein the antibody does not block binding between the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from antibody S137. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different human SIRP- α variant polypeptides and a monkey SIRP- α polypeptide; wherein the antibody does not bind a murine SIRP- α polypeptide; wherein the antibody does not bind at least one of an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide and an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide; and wherein the antibody blocks binding between the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from an antibody selected from the group consisting of S128. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different human SIRP- α variant polypeptides, a monkey SIRP- α polypeptide, and at least one of an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide and an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide; wherein the antibody does not bind a murine SIRP- α polypeptide; and wherein the antibody blocks binding between the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from an antibody selected from the group consisting of S9, S11, S119, S120, S122, and S135. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different human SIRP- α variant polypeptides and the extracellular domains (e.g., the D1 domains) of two or more different monkey SIRP- α variant polypeptides, and wherein binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain

of a human CD47 polypeptide. In some examples, the antibody comprises one, two, three, four, five, or six CDR sequences; a heavy chain variable domain sequence; and/or a light chain variable domain sequence from an antibody selected from the group consisting of S115, S116, S117 and S118. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:120 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:97. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:127 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:104. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:133 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:134. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:135 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:136. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:137 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:138. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:139 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:140. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:141 and/or a VL domain comprising the amino acid sequence of SEQ ID NO:142.

[0010] In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 115 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 115 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 116 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 116 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%,

91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 117 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 117 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 118 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 118 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 119 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 119 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 120 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 120 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 121 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 121 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 122 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 122 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid

sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 123 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 123 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 126 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 126 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 128 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 128 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 130 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 130 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 135 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 135 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 137 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 137 (*e.g.*, as listed in Table 2). In some examples, the antibody

comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 138 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 138 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 1 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 1 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 2 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 2 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 8 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 8 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 9 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 9 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 11 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 11 (*e.g.*, as listed in Table 2).

In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 12 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 12 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 13 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 13 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 14 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 14 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VH domain of antibody 21, 25, 27, or 66 (*e.g.*, as listed in Table 2) and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to the VL domain of antibody 21, 25, 27, or 66 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:116 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:93. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:117 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:94. In some examples, the antibody comprises a VH domain comprising an amino acid

sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:118 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:95. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:119 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:96. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:335 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:97. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:121 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:98. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:122 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:99. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:123 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:100. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:124 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:101. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%,

87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:125 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:102. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:126 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:103. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:127 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:104. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:128 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:105. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:129 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:106. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:130 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:107. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:108 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:85. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%,

92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:109 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:86. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:110 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:87. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:111 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:88. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:112 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:89. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:113 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:90. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:114 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:91. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:115 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:92. In some examples, the antibody comprises a VH domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%,

98%, 99%, or 100% identical to SEQ ID NO:135, 137, 139, or 141 and/or a VL domain comprising an amino acid sequence that is 85%, 86%, 87%, 88%, 89%, 90%, 91%, 92%, 93%, 94%, 95%, 96%, 97%, 98%, 99%, or 100% identical to SEQ ID NO:136, 138, 140, or 142.

[0011] In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:227 or 230, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:228 or 231, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:229; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:232, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:233, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:234.

In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:219 or 235, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:236 or 238, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:237; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:239, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:240, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:241. In some examples, the antibody comprises (a) an HVR-H1 sequence comprising the amino acid sequence of GFSFSX₁X₂AMX₃, wherein X₁ is N or I; X₂ is F or Y; and X₃ is T or S (SEQ ID NO:185); (b) an HVR-H2 sequence comprising the amino acid sequence of

TIGX₄X₅DTYYADSVKG, wherein X₄ is S or A and X₅ is G or D (SEQ ID NO:186); (c) an HVR-H3 sequence comprising the amino acid sequence of DSTVX₆WSGDFFDY, wherein X₆ is S or G (SEQ ID NO:187); (d) an HVR-L1 sequence comprising the amino acid sequence of RASQNVX₇X₈DX₉A, wherein X₇ is K or R; X₈ is N or S; and X₉ is L or I (SEQ ID NO:188); (e) an HVR-L2 sequence comprising the amino acid sequence of AAX₁₀X₁₁RX₁₂T, wherein X₁₀ is R or S; X₁₁ is I or S; and X₁₂ is E or D (SEQ ID NO:189); and (f) an HVR-L3 sequence comprising the amino acid sequence of QQYYDWPPFT (SEQ ID NO:148).

In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 119 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from the variable domain sequences of SEQ ID NOs:335 and 97 (*e.g.*, one, two, or three heavy chain HVR sequences from the heavy chain variable domain sequence of SEQ ID NO:335 and/or one, two, or three light chain HVR sequences from the light chain variable

domain sequence of SEQ ID NO:97). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 135 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from the variable domain sequences of SEQ ID NOs:127 and 104 (*e.g.*, one, two, or three heavy chain HVR sequences from the heavy chain variable domain sequence of SEQ ID NO:127 and/or one, two, or three light chain HVR sequences from the light chain variable domain sequence of SEQ ID NO:104). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from the variable domain sequences of SEQ ID NOs:97, 104, 120, 335, and 127 (*e.g.*, one, two, or three heavy chain HVR sequences from the heavy chain variable domain sequence of SEQ ID NOs:335 and 127 and/or one, two, or three light chain HVR sequences from the light chain variable domain sequence of SEQ ID NOs:97 and 104). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs:143-148 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs:143-145 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs:146-148). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs:148-153 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs:149-151 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs:152, 153, and 148). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 136 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs:155-160 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs:155-157 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs:158-160). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 21 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs:161-166 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs:161-163 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs:164-166). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 25 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR

sequences having an amino acid sequence selected from SEQ ID NOs: 161, 163, 168, and 170-172 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs: 161, 168, and 163 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs: 170-172). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 27 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs: 163, 173, 174, and 176-178 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs: 163, 173, and 174 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs: 176-178). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 66 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences having an amino acid sequence selected from SEQ ID NOs: 162, 163, 179, and 182-184 (*e.g.*, one, two, or three heavy chain HVR sequences selected from SEQ ID NOs: 162, 163, and 179 and/or one, two, or three light chain HVR sequences selected from SEQ ID NOs: 182-184). In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO: 143, 202, 204, or 205, an HVR-H2 comprising the amino acid sequence of SEQ ID NO: 144, 203, or 206, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO: 145 or 207; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO: 146 or 208, an HVR-L2 comprising the amino acid sequence of SEQ ID NO: 147 or 209, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO: 148 or 210. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO: 149, 211, 213, or 214, an HVR-H2 comprising the amino acid sequence of SEQ ID NO: 150, 212, or 215, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO: 151 or 216; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO: 152 or 217, an HVR-L2 comprising the amino acid sequence of SEQ ID NO: 153 or 218, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO: 148. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO: 155, 219, 221, or 222, an HVR-H2 comprising the amino acid sequence of SEQ ID NO: 156, 220, or 223, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO: 157 or 224; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence

of SEQ ID NO:158 or 225, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:159 or 226, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:160. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:161, 191, or 194, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:162, 192, or 195, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:163 or 193; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:166. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:161, 191, or 194, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:168, 196, or 197, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:163 or 193; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:170, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:171, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:172. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:173, 198, or 200, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:174, 199, or 201, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:163 or 193; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:176, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:177, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:178. In some examples, the antibody comprises (a) a VH domain comprising an HVR-H1 comprising the amino acid sequence of SEQ ID NO:179, an HVR-H2 comprising the amino acid sequence of SEQ ID NO:162, and an HVR-H3 comprising the amino acid sequence of SEQ ID NO:163; and/or (b) a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:182, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:183, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:184. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:135 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:166. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID

NO:137 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:170, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:171, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:172. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:139 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:176, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:177, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:178. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:141 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:182, an HVR-L2 comprising the amino acid sequence of SEQ ID NO:183, and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:184. In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 3 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises (a) a VH domain comprising one, two, or three HVR sequences from SEQ ID NO:242; and/or (b) a VL domain comprising one, two, or three HVR sequences from SEQ ID NO:243. In some examples, the antibody comprises one, two, three, four, five, or six HVR sequences from antibody 45 (*e.g.*, as listed in Table 2). In some examples, the antibody comprises (a) a VH domain comprising one, two, or three HVR sequences from SEQ ID NO:244; and/or (b) a VL domain comprising one, two, or three HVR sequences from SEQ ID NO:245. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:135 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, 170, 176, or 182; an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, 171, 177, or 183; and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:166, 172, 178, or 184. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:137 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, 170, 176, or 182; an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, 171, 177, or 183; and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:166, 172, 178, or 184. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:139 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, 170, 176, or 182; an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, 171, 177, or 183; and an HVR-L3 comprising the amino acid sequence of SEQ ID

NO:166, 172, 178, or 184. In some examples, the antibody comprises a VH domain comprising the amino acid sequence of SEQ ID NO:141 and/or a VL domain comprising an HVR-L1 comprising the amino acid sequence of SEQ ID NO:164, 170, 176, or 182; an HVR-L2 comprising the amino acid sequence of SEQ ID NO:165, 171, 177, or 183; and an HVR-L3 comprising the amino acid sequence of SEQ ID NO:166, 172, 178, or 184. In some examples, one, two, three, four, five, or six of the HVR sequences are defined by Kabat. In some examples, one, two, three, four, five, or six of the HVR sequences are defined by Chothia. In some examples, one, two, three, four, five, or six of the HVR sequences are defined by IMGT. In some examples, the antibody comprises HVR sequences as defined by two or more of Kabat, Chothia, and IMGT (*e.g.*, the antibody comprises one or more HVR sequences as defined by one delineation and one or more HVR sequences as defined by a different delineation).

[0012] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (*e.g.*, the D1 domain), wherein the antibody comprises: (a) a heavy chain variable (VH) domain comprising (i) an HVR-H1 sequence comprising the amino acid sequence of NFAMT (SEQ ID NO:175), NFAVT (SEQ ID NO:204), or NFALT (SEQ ID NO:305), (ii) an HVR-H2 sequence comprising the amino acid sequence of TIGSGDTYYADSVKG (SEQ ID NO:144), and (iii) an HVR-H3 sequence comprising the amino acid sequence of DSTVSWSGDFFDY (SEQ ID NO:145); and/or (b) a light chain variable (VL) domain comprising (i) an HVR-L1 sequence comprising the amino acid sequence of RASQNVKNDLA (SEQ ID NO:146), (ii) an HVR-L2 sequence comprising the amino acid sequence of AARIRET (SEQ ID NO:147), and (iii) an HVR-L3 sequence comprising the amino acid sequence of QQYYDWPPFT (SEQ ID NO:148). In some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:120, 335, 246, 258, or 327; and/or the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:97 or 312. In some examples, the VH domain comprises the amino acid sequence of SEQ ID NO:246, and the VL domain comprises the amino acid sequence of SEQ ID NO:97; the VH domain comprises the amino acid sequence of SEQ ID NO:258, and the VL domain comprises the amino acid sequence of SEQ ID NO:97; the VH domain comprises the amino acid sequence of SEQ ID NO:335, and the VL domain comprises the amino acid sequence of SEQ ID NO:97; the VH domain comprises the amino acid sequence of SEQ ID NO:327, and the VL domain comprises the

amino acid sequence of SEQ ID NO:97; the VH domain comprises the amino acid sequence of SEQ ID NO:246, and the VL domain comprises the amino acid sequence of SEQ ID NO:312; the VH domain comprises the amino acid sequence of SEQ ID NO:258, and the VL domain comprises the amino acid sequence of SEQ ID NO:312; the VH domain comprises the amino acid sequence of SEQ ID NO:335, and the VL domain comprises the amino acid sequence of SEQ ID NO:312; or the VH domain comprises the amino acid sequence of SEQ ID NO:327, and the VL domain comprises the amino acid sequence of SEQ ID NO:312.

[0013] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody comprises: (a) a heavy chain variable (VH) domain comprising (i) an HVR-H1 sequence comprising the amino acid sequence of IYAMS (SEQ ID NO:269), IYAVS (SEQ ID NO:213), or IYALS (SEQ ID NO:306), (ii) an HVR-H2 sequence comprising the amino acid sequence of TIGADDTYYADSVKG (SEQ ID NO:150), and (iii) an HVR-H3 sequence comprising the amino acid sequence of DSTVGWSGDFFDY (SEQ ID NO:151); and/or (b) a light chain variable (VL) domain comprising (i) an HVR-L1 sequence comprising the amino acid sequence of RASQNVRSDIA (SEQ ID NO:152), (ii) an HVR-L2 sequence comprising the amino acid sequence of AASSRDT (SEQ ID NO:153), and (iii) an HVR-L3 sequence comprising the amino acid sequence of QQYYDWPPFT (SEQ ID NO:148). In some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:341, 247, 259, or 328; and/or the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:104 or 248. In some examples, the VH domain comprises the amino acid sequence of SEQ ID NO:127, and the VL domain comprises the amino acid sequence of SEQ ID NO:104; the VH domain comprises the amino acid sequence of SEQ ID NO:247, and the VL domain comprises the amino acid sequence of SEQ ID NO:104; the VH domain comprises the amino acid sequence of SEQ ID NO:259, and the VL domain comprises the amino acid sequence of SEQ ID NO:104; the VH domain comprises the amino acid sequence of SEQ ID NO:328, and the VL domain comprises the amino acid sequence of SEQ ID NO:104; the VH domain comprises the amino acid sequence of SEQ ID NO:127, and the VL domain comprises the amino acid sequence of SEQ ID NO:248; the VH domain comprises the amino acid sequence of SEQ ID NO:247, and the VL domain comprises the amino acid sequence of SEQ ID NO:248; the

VH domain comprises the amino acid sequence of SEQ ID NO:259, and the VL domain comprises the amino acid sequence of SEQ ID NO:248; or the VH domain comprises the amino acid sequence of SEQ ID NO:328, and the VL domain comprises the amino acid sequence of SEQ ID NO:248.

[0014] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody comprises: (a) a heavy chain variable (VH) domain comprising: (i) an HVR-H1 sequence comprising the amino acid sequence of $X_1X_2DX_3N$, wherein X_1 is S or T; X_2 is Y or S; and X_3 is M, L, or V (SEQ ID NO:307); (ii) an HVR-H2 sequence comprising the amino acid sequence of $LISGSGEIX_1YYADSVKG$, wherein X_1 is I or T (SEQ ID NO:308); and (iii) an HVR-H3 sequence comprising the amino acid sequence of $EX_1X_2X_3YRFFDX_4$, wherein X_1 is N or D; X_2 is N or D; X_3 is R or M; and X_4 is D or Y (SEQ ID NO:309); and/or (b) a light chain variable (VL) domain comprising: (i) an HVR-L1 sequence comprising the amino acid sequence of RAX_1QSVYX_2YLA , wherein X_1 is S or D; and X_2 is T or S (SEQ ID NO:310); (ii) an HVR-L2 sequence comprising the amino acid sequence of $X_1AX_2X_3RAX_4$, wherein X_1 is G, A, or D; X_2 is S or R; X_3 is S, N, or T; and X_4 is T or A (SEQ ID NO:311); and (iii) an HVR-L3 sequence comprising the amino acid sequence of $QQYYDRPPLT$ (SEQ ID NO:160). In some examples, the antibody comprises (a) a heavy chain variable (VH) domain comprising (i) an HVR-H1 sequence comprising the amino acid sequence of $SYDMN$ (SEQ ID NO:270), $SYDVN$ (SEQ ID NO:221), or $SYDLN$ (SEQ ID NO:313), (ii) an HVR-H2 sequence comprising the amino acid sequence of $LISGSGEIYYADSVKG$ (SEQ ID NO:156), and (iii) an HVR-H3 sequence comprising the amino acid sequence of $ENNRYPFFDD$ (SEQ ID NO:157); and/or (b) a light chain variable (VL) domain comprising (i) an HVR-L1 sequence comprising the amino acid sequence of $RASQSVYTYLA$ (SEQ ID NO:158), (ii) an HVR-L2 sequence comprising the amino acid sequence of $GASSRAT$ (SEQ ID NO:159), and (iii) an HVR-L3 sequence comprising the amino acid sequence of $QQYYDRPPLT$ (SEQ ID NO:160). In some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO: 249, 133, 260, or 329; and/or the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:134, 250, or 251. In some examples, the VH domain comprises the amino acid sequence of SEQ ID NO:133, and the VL domain comprises the amino acid sequence of SEQ ID NO:134; the VH domain comprises the

comprising the amino acid sequence of $X_1X_2YDX_3X_4X_5YX_6NX_7$, wherein X_1 is G or A; X_2 is G or A; X_3 is G, Y, Q, S, or A; X_4 is S, R, or T; X_5 is T or S; X_6 is A, I, V, L, or T; and X_7 is T, A, D, or P (SEQ ID NO:301). In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody comprises: a heavy chain variable (VH) domain comprising: a heavy chain variable (VH) domain comprising: an HVR-H1 sequence comprising the amino acid sequence of SX_1AX_2S , wherein X_1 is N or Y; and wherein X_2 is M, L, or V (SEQ ID NO:302); an HVR-H2 sequence comprising the amino acid sequence of $GISX_1GX_2X_3DTYYX_4X_5SVKG$, wherein X_1 is A or S; X_2 is G or absent; X_3 is S or G; X_4 is P, G, or V; and X_5 is A or D (SEQ ID NO:303); and an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193); and/or a light chain variable (VL) domain comprising: an HVR-L1 sequence comprising the amino acid sequence of $SGGX_1YSSYYA$, wherein X_1 is S or A (SEQ ID NO:304); an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336); and an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172). In some examples, the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISAGGSDTYYPASVKG (SEQ ID NO:195), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193). In some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:135, 263, 264, or 330. In some examples, the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGSDTYYGDSVKG (SEQ ID NO:197), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193). In some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:137, 265, 266, or 331. In some examples, the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SYAMS (SEQ ID NO:200), SYAVS (SEQ ID NO:272), or SYALS (SEQ ID NO:319), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGGDTYYVDSVKG (SEQ ID NO:201), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193). In

some examples, the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:139, 267, 268, or 332. In some examples, the VL domain comprises the sequence FW1—HVR-L1—FW2—HVR-L2—FW3—HVR-L3—FW4 (N-terminus to C-terminus), wherein FW1 comprises the amino acid sequence SYELTQPPSVSVSPGQTARITC (SEQ ID NO:314), FW2 comprises the amino acid sequence WYQQKPGQAPVTLIY (SEQ ID NO:315), FW3 comprises the amino acid sequence NIPERFSGSSSGTTVTLTISGVQAEDEADYYC (SEQ ID NO:316), and FW4 comprises the amino acid sequence FGGGTKLTVL (SEQ ID NO:317). In some examples, the VL domain comprises (i) an HVR-L1 sequence comprising the amino acid sequence of SGGSYSSYYA (SEQ ID NO:170), (ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172). In some examples, the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:252. In some examples, the VL domain comprises (i) an HVR-L1 sequence comprising the amino acid sequence of SGGAYSSYYA (SEQ ID NO:261), (ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172). In some examples, the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:262. In some examples, the VH domain comprises the amino acid sequence of SEQ ID NO:263, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:264, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:330, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:135, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:137, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:139, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:265, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:266, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the

VH domain comprises the amino acid sequence of SEQ ID NO:331, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:267, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:268, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:332, and the VL domain comprises the amino acid sequence of SEQ ID NO:252; the VH domain comprises the amino acid sequence of SEQ ID NO:263, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:264, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:330, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:265, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:266, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:331, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:267, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:268, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:332, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:135, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; the VH domain comprises the amino acid sequence of SEQ ID NO:137, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; or the VH domain comprises the amino acid sequence of SEQ ID NO:139, and the VL domain comprises the amino acid sequence of SEQ ID NO:262.

[0016] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody binds to a human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of I31, V33, Q52, K53, T67, R69, N70, and K96, according to SEQ ID NO:296. In some examples, the antibody binds to the human SIRP- α v1 polypeptide at I31, V33, Q52, K53, T67, R69, N70, and K96, according to SEQ

ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of L30, P32, E54, T62, N71, M72, F74, and R95, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at L30, P32, E54, T62, N71, M72, F74, and R95, according to SEQ ID NO:296.

[0017] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody binds to a human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of I7, P9, D10, K11, S12, A42, A108, and E111, according to SEQ ID NO:296. In some examples, the antibody binds to the human SIRP- α v1 polypeptide at K11, A42, A108, and E111, according to SEQ ID NO:296. In some examples, the antibody binds to the human SIRP- α v1 polypeptide at I7, P9, D10, K11, S12, A108, and E111, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of L14, T26, T28, T88, Y90, S106, S113, and A116, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at L14, T88, Y90, S106, S113, and A116 of human SIRP- α v1, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at L14, T26, and T28, according to SEQ ID NO:296.

[0018] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody binds to a human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of E47, L48, P58, R59, T82, and A84, according to SEQ ID NO:296. In some examples, the antibody binds to the human SIRP- α v1 polypeptide at E47, L48, P58, R59, T82, and A84, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of A17, P44, G45, I49, E54, G55, H56, F57, and P83, according to SEQ ID NO:296. In some examples, the antibody further binds to the human SIRP- α v1 polypeptide at A17, P44, G45, I49, E54, G55, H56, F57, and P83 of human SIRP- α v1, according to SEQ ID NO:296.

[0019] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the

antibody binds the extracellular domain of a human SIRP- α v1 polypeptide with a dissociation constant (K_D) of less than 100nM, and wherein the antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the extracellular domain of a human SIRP- α v2 polypeptide with a dissociation constant (K_D) of less than 100nM. In some examples, the antibody binds the D1 domain of a human SIRP- α v1 polypeptide and the D1 domain of a human SIRP- α v2 polypeptide. In some examples, the antibody binds an extracellular domain of a cynomolgus SIRP- α polypeptide. In some examples, the antibody binds an extracellular domain of a human SIRP- β polypeptide. In some examples, the antibody binds an extracellular domain of a human SIRP- γ polypeptide. In some examples, the antibody binds an extracellular domain of a murine SIRP- α polypeptide.

[0020] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody binds the D1 domain of a human SIRP- α polypeptide, and wherein the antibody does not block binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody binds the D1 domain of a human SIRP- α with a dissociation constant (K_D) of less than 100nM. In some examples, the antibody binds the D1 domain of a human SIRP- α v1 polypeptide with a dissociation constant (K_D) of less than 100nM and/or binds the D1 domain of a human SIRP- α v2 polypeptide with a dissociation constant (K_D) of less than 100nM. In some examples, the antibody binds the D1 domain of a human SIRP- α v1 polypeptide and the D1 domain of a human SIRP- α v2 polypeptide. In some examples, the antibody binds an extracellular domain of a cynomolgus SIRP- α polypeptide. In some examples, the antibody binds an extracellular domain of a human SIRP- β polypeptide. In some examples, the antibody binds an extracellular domain of a murine SIRP- α polypeptide.

[0021] In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody competes for binding the extracellular domain of the human SIRP- α polypeptide with a reference anti-SIRP- α antibody comprising a heavy chain variable (VH) domain and a light chain variable (VL) domain of an antibody selected from the group consisting of antibodies 119, 120, 121, 122, 21, 25, 27, 66, and 135. In other examples, provided herein is

with a reference anti-SIRP- α antibody comprising a heavy chain variable (VH) domain and a light chain variable (VL) domain of antibody 45. In other examples, provided herein is an isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide (e.g., the D1 domain), wherein the antibody competes for binding the extracellular domain of the human SIRP- α polypeptide with a reference anti-SIRP- α antibody comprising a heavy chain variable (VH) domain comprising the amino acid sequence of SEQ ID NO:244 and a light chain variable (VL) domain comprising the amino acid sequence of SEQ ID NO:245.

[0027] In some examples of any of the above examples, the antibody enhances phagocytosis by a macrophage expressing a human SIRP- α polypeptide. In some examples, the antibody enhances activation of a dendritic cell expressing a human SIRP- α polypeptide. In some examples, the antibody inhibits *in vivo* growth of a tumor that expresses CD47. In some examples, the antibody does not prevent interactions between a CD47-expressing cell and a T cell.

[0028] In some examples of any of the above examples, the antibody is a monoclonal antibody. In some examples, the antibody is a scFv-Fc, single domain antibody, single heavy chain antibody, or single light chain antibody. In some examples, the antibody comprises a light chain constant region comprising the amino acid sequence of SEQ ID NO:325, 326, or 426. In some examples, the antibody comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:320-324. In some examples, the antibody comprises an Fc region. In some examples, the Fc region is a human Fc region selected from the group consisting of an IgG1 Fc region, an IgG2 Fc region, and an IgG4 Fc region. In some examples, the Fc region comprises a human IgG1 Fc region comprising one or more mutations selected from the group consisting of L234A, L235A, L235E, G237A, and N297A, according to EU numbering. In some examples, the Fc region comprises a human IgG2 Fc region comprising one or more mutations selected from the group consisting of A330S, P331S and N297A, according to EU numbering. In some examples, the Fc region comprises a human IgG4 Fc region comprising one or more mutations selected from the group consisting of S228P, E233P, F234V, L235A, L235E, delG236, and N297A, according to EU numbering. In some examples, the antibody is an antibody fragment selected from the group consisting of a Fab, F(ab')₂, Fab'-SH, Fv, and scFv fragment. In some examples, the antibody is conjugated to a cytotoxic agent or label.

[0029] In some examples, the antibody is a bispecific antibody. In some examples, the antibody comprises a first antigen binding domain that binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and a second antigen binding domain that binds an antigen expressed by a cancer cell. In some examples, the antigen expressed by the cancer cell is selected from the group consisting of CD19, CD20, CD22, CD30, CD33, CD38, CD52, CD56, CD70, CD74, CD79b, CD123, CD138, CS1/SLAMF7, Trop-2, 5T4, EphA4, BCMA, Mucin 1, Mucin 16, PD-L1, PTK7, STEAP1, Endothelin B Receptor, mesothelin, EGFRvIII, ENPP3, SLC44A4, GNMB, nectin 4, NaPi2b, LIV-1A, Guanylyl cyclase C, DLL3, EGFR, HER2, VEGF, VEGFR, integrin α V β 3, integrin α 5 β 1, MET, IGF1R, TRAILR1, TRAILR2, RANKL, FAP, Tenascin, Le^y, EpCAM, CEA, gpA33, PSMA, TAG72, a mucin, CAIX, EPHA3, folate receptor α , GD2, GD3, and an MHC/peptide complex comprising a peptide from NY-ESO-1/LAGE, SSX-2, a MAGE family protein, MAGE-A3, gp100/pmel17, Melan-A/MART-1, gp75/TRP1, tyrosinase, TRP2, CEA, PSA, TAG-72, immature laminin receptor, MOK/RAGE-1, WT-1, SAP-1, BING-4, EpCAM, MUC1, PRAME, survivin, BRCA1, BRCA2, CDK4, CML66, MART-2, p53, Ras, β -catenin, TGF- β RII, HPV E6, or HPV E7. In some examples, the antibody is a chicken, humanized, chimeric, or human antibody. In some examples, the antibody is generated by or derived from a chicken.

[0030] In one aspect, the present disclosure refers to polynucleotides comprising any one of the antibodies as disclosed herein. In other aspects, the present disclosure refers to vectors comprising any one of the polynucleotides as disclosed herein. In further aspects, the present disclosure refers to host cells comprising any one of the polynucleotides or vectors as disclosed herein. In one aspect, the present disclosure refers to methods of producing an antibody, comprising culturing any one of the host cells as disclosed herein such that the antibody is produced. In some examples, the methods further include recovering the antibody from the host cell.

[0031] Further provided herein are methods of treating or delaying progression of cancer in an individual, the methods comprising administering to the individual an effective amount of the antibody according to any one of the above examples. In one aspect, the present disclosure refers to use of the antibody as disclosed herein in the manufacture of a medicament for treating or delaying progression of cancer in an individual. In some examples, the methods further comprise administering to the individual an effective amount of a second antibody. In some examples, the second antibody binds an antigen expressed by a cancer cell. In some examples, the antigen expressed by the cancer cell

is selected from the group consisting of CD19, CD20, CD22, CD30, CD33, CD38, CD52, CD56, CD70, CD74, CD79b, CD123, CD138, CS1/SLAMF7, Trop-2, 5T4, EphA4, BCMA, Mucin 1, Mucin 16, PTK7, STEAP1, Endothelin B Receptor, mesothelin, EGFRvIII, ENPP3, SLC44A4, GNMB, nectin 4, NaPi2b, LIV-1A, Guanylyl cyclase C, DLL3, EGFR, HER2, VEGF, VEGFR, integrin α V β 3, integrin α 5 β 1, MET, IGF1R, TRAILR1, TRAILR2, RANKL, FAP, Tenascin, Le^y, EpCAM, CEA, gpA33, PSMA, TAG72, a mucin, CAIX, EPHA3, folate receptor α , GD2, GD3, and an MHC/peptide complex comprising a peptide from NY-ESO-1/LAGE, SSX-2, a MAGE family protein, MAGE-A3, gp100/pmel17, Melan-A/MART-1, gp75/TRP1, tyrosinase, TRP2, CEA, PSA, TAG-72, immature laminin receptor, MOK/RAGE-1, WT-1, SAP-1, BING-4, EpCAM, MUC1, PRAME, survivin, BRCA1, BRCA2, CDK4, CML66, MART-2, p53, Ras, β -catenin, TGF- β RII, HPV E6, or HPV E7. In some examples, the methods further comprise administering to the individual an effective amount of an immunotherapeutic agent. In some examples, the immunotherapeutic agent comprises a second antibody. In some examples, the second antibody binds to an antigen selected from the group consisting of PD-1, PD-L1, OX40, CTLA-4, CD137/4-1BB, TNFR2, B7-H3, FZD7, CD27, CCR4, CSF1R, CSF, TIM-3, LAG-3, VISTA, ICOS, CCR2, IDO, A2R, CD39, CD73, TIGIT, CD80, CD47, arginase, TDO, and PVRIG. In some examples, the first antibody binds the extracellular domain of a human SIRP- α v1 polypeptide, the extracellular domain of a human SIRP- α v2 polypeptide, or the extracellular domains of both a human SIRP- α v1 polypeptide and a human SIRP- α v2 polypeptide with a dissociation constant (K_D) of less than 100nM, wherein the first antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-1. In some examples, the first antibody binds the D1 domain of a human SIRP- α polypeptide, wherein the first antibody does not block binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-1. In some examples, the first antibody binds the extracellular domain of a human SIRP- α v1 polypeptide with a dissociation constant (K_D) of less than 100nM, wherein the first antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-L1. In some examples, the first antibody binds the D1 domain of a human SIRP- α polypeptide, wherein the first antibody does not

block binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-L1. In some examples, the individual is a human.

[0032] Further provided herein are methods of treating or delaying progression of an autoimmune disease or an inflammatory disease in an individual, the methods comprising administering to the individual an effective amount of the antibody according to any one of the above examples. In some examples, the autoimmune disease or inflammatory disease is selected from the group consisting of multiple sclerosis, rheumatoid arthritis, a spondyloarthropathy, systemic lupus erythematosus, an antibody-mediated inflammatory or autoimmune disease, graft versus host disease, sepsis, diabetes, psoriasis, psoriatic arthritis, atherosclerosis, Sjogren's syndrome, progressive systemic sclerosis, scleroderma, acute coronary syndrome, ischemic reperfusion, Crohn's Disease, ulcerative colitis, endometriosis, glomerulonephritis, IgA nephropathy, polycystic kidney disease, myasthenia gravis, idiopathic pulmonary fibrosis, asthma, atopic dermatitis, acute respiratory distress syndrome (ARDS), vasculitis, and inflammatory autoimmune myositis. In some examples, the individual is a human.

[0033] Further provided herein are methods of identifying an antigen binding domain that binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and does not block binding between human CD47 and the human SIRP- α polypeptide, the methods comprising (a) providing an antigen binding domain that binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide; (b) assembling a complex comprising a SIRP- α D1 variant bound to a polypeptide comprising an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47; (c) contacting the antigen binding domain with the assembled complex; and (d) detecting binding of the antigen binding domain to the complex, wherein binding of the antigen binding domain to the complex indicates that the antigen binding domain does not block binding between human CD47 and the human SIRP- α polypeptide. Further provided herein are methods of identifying an antibody or antigen binding domain that binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and does not block binding between human CD47 and the human SIRP- α polypeptide, the methods comprising contacting an antibody or antigen binding domain that binds the extracellular

examples, the SIRP- α D1 variant comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:17-52. In some examples, the IgSF domain of CD47 comprises the amino acid sequence of SEQ ID NO:16. In some examples, the polypeptide comprising the IgSF domain of CD47 comprises a human CD47 extracellular domain. In some examples, the polypeptide comprising the IgSF domain of CD47 further comprises an antibody Fc region.

[0034] Further provided herein are methods of producing an anti-SIRP- α antibody that binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide, the methods comprising: (a) immunizing a chicken with a peptide comprising at least a portion of a human SIRP- α extracellular domain (e.g., the D1 domain); (b) obtaining an antibody from an antibody-producing cell from the immunized chicken; and (c) detecting binding between the antibody obtained from the cell and the extracellular domains (e.g., the D1 domains) of a human SIRP- α polypeptide, wherein binding between the antibody and the extracellular domain (e.g., the D1 domain) of the human SIRP- α polypeptide indicates that the antibody is an anti-SIRP- α antibody that binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α variant polypeptide. In some examples, the antibody is a chicken, humanized, chimeric, or human antibody. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide, the extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide, or both. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide comprising the amino acid sequence of

EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPR
VTTVSDLTKRNNMDFSIRIGNITPADAGTYCYVKFRKGSPDDVEFKSGAGTELSVRAK
PS (SEQ ID NO:5). In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide comprising the amino acid sequence of
EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRV
TTVSESTKRENMDFSISISNITPADAGTYCYVKFRKGSPDTEFKSGAGTELSVRAKPS
(SEQ ID NO:6). In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α v1 polypeptide comprising the amino acid sequence of
EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPR
VTTVSDLTKRNNMDFSIRIGNITPADAGTYCYVKFRKGSPDDVEFKSGAGTELS

VRAKPS (SEQ ID NO:5) and binds an extracellular domain (e.g., the D1 domain) of a human SIRP- α v2 polypeptide comprising the amino acid sequence of
 EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRV
 TTVSESTKRENMDFSISISNITPADAGTYCYVKFRKGSPDTEFKSGAGTELSVRAKPS
 (SEQ ID NO:6). In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of three, four, five, six, seven, eight, nine or ten different human SIRP- α variant polypeptides. In some examples, each of the three, four, five, six, seven, eight, nine or ten different human SIRP- α variant polypeptides comprises an extracellular domain (e.g., the D1 domain) comprising an amino acid sequence selected from the group consisting of SEQ ID NOs: 5, 6, and 76-83. In some examples, the methods further comprise detecting binding between the antibody obtained from the cell and an extracellular domain (e.g., the D1 domain) of one or more SIRP- α polypeptides selected from the group consisting of a monkey SIRP- α polypeptide, a murine SIRP- α polypeptide, a human SIRP- β polypeptide, and a human SIRP- γ polypeptide. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a monkey SIRP- α polypeptide. In some examples, the monkey SIRP- α polypeptide is a cynomolgus SIRP- α polypeptide. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of at least two different monkey SIRP- α variant polypeptides. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a cynomolgus SIRP- α polypeptide comprising the amino acid sequence of SEQ ID NO:11, an extracellular domain (e.g., the D1 domain) of a cynomolgus SIRP- α polypeptide comprising the amino acid sequence of SEQ ID NO:12, or both. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a murine SIRP- α polypeptide. In some examples, the antibody binds the extracellular domains (e.g., the D1 domains) of two or more different murine SIRP- α variant polypeptides. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of one or more murine SIRP- α polypeptides, and wherein the one or more murine SIRP- α polypeptides each comprise an amino acid sequence selected from the group consisting of SEQ ID NOs: 7-10. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide. In some examples, the antibody binds an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide. In some examples, the antibody does not bind an extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide. In some examples, the

antibody does not bind an extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide comprising the amino acid sequence of SEQ ID NO:13, the extracellular domain (e.g., the D1 domain) of a human SIRP- β polypeptide comprising the amino acid sequence of SEQ ID NO:14, or both. In some examples, the antibody binds the extracellular domain (e.g., the D1 domain) of a human SIRP- γ polypeptide comprising the amino acid sequence of SEQ ID NO:15. In some examples, the methods further comprise detecting binding or a lack of binding between the antibody obtained from the cell and a complex comprising a SIRP- α D1 variant bound to an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47. In some examples, the antibody binds a complex comprising a SIRP- α D1 variant bound to an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47. In some examples, the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody does not block binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell and an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, the antibody does not bind a complex comprising a SIRP- α D1 variant bound to an IgSF domain of CD47, wherein the SIRP- α D1 variant is a non-naturally occurring high affinity SIRP- α D1 domain, and wherein the SIRP- α D1 variant binds to human CD47 with an affinity that is at least 10-fold greater than the affinity of a naturally occurring SIRP- α D1 domain binding to human CD47. In some examples, the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide. In some examples, the antibody blocks binding between an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell and an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, binding of the antibody to an extracellular domain

(e.g., the D1 domain) of a human SIRP- α polypeptide reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell reduces affinity of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide increases k_{off} of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide. In some examples, binding of the antibody to an extracellular domain (e.g., the D1 domain) of a human SIRP- α polypeptide expressed on the surface of a first cell increases k_{off} of the human SIRP- α polypeptide for binding an IgSF domain of a human CD47 polypeptide expressed on the surface of a second cell. In some examples, the antibody modulates SIRP- α signaling in a cell expressing a human SIRP- α polypeptide. In some examples, the cell is a leukocyte selected from the group consisting of a macrophage, a dendritic cell, a neutrophil, an eosinophil, and a myeloid-derived suppressor cell (MDSC). In some examples, the antibody inhibits SIRP- α signaling in a macrophage expressing a human SIRP- α polypeptide. In some examples, the antibody enhances phagocytosis by a macrophage expressing a human SIRP- α polypeptide.

[0035] It is to be understood that one, some, or all of the properties of the various examples described herein may be combined to form other examples of the present disclosure. These and other aspects of the disclosure will become apparent to one of skill in the art. These and other examples of the disclosure are further described by the detailed description that follows.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] **FIG. 1A** shows an alignment among the D1 domains of 10 different human SIRP- α variant polypeptides. Sequences shown correspond to SEQ ID NOs: 5, 6, and 76-83 (from top to bottom). Amino acid differences are indicated by asterisks.

[0037] **FIG. 1B** shows an alignment between human v1, human v2, cynomolgus monkey, and 129 mouse SIRP- α D1 domains. Sequences shown correspond to SEQ ID NOs: 5, 6, 11, and 7 (from top to bottom). Amino acid differences are indicated by asterisks.

[0038] **FIG. 1C** shows alignments between various human and mouse SIRP- α D1 domains, with R1, R2 and R3 loops indicated. Shown is an alignment between human v1,

CLAIMS

What is claimed is:

1. An isolated antibody that binds an extracellular domain of a human SIRP- α polypeptide, wherein the antibody binds the extracellular domain of a human SIRP- α v1 polypeptide, the extracellular domain of a human SIRP- α v2 polypeptide, or both; and wherein the antibody comprises:

(a) a heavy chain variable (VH) domain comprising:

(i) an HVR-H1 sequence comprising the amino acid sequence of SX₁AX₂S, wherein X₁ is N or Y; and wherein X₂ is M, L, or V (SEQ ID NO:302);

(ii) an HVR-H2 sequence comprising the amino acid sequence of GISX₁GX₂X₃DTYYX₄X₅SVKG, wherein X₁ is A or S; X₂ is G or absent; X₃ is S or G; X₄ is P, G, or V; and X₅ is A or D (SEQ ID NO:303); and

(iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193); and

(b) a light chain variable (VL) domain comprising:

(i) an HVR-L1 sequence comprising the amino acid sequence of SGGX₁YSSYYA, wherein X₁ is S or A (SEQ ID NO:304);

(ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336); and

(iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172).

2. The antibody of claim 1, wherein the antibody binds an extracellular domain of a human SIRP- α v1 polypeptide comprising the amino acid sequence of EEELQVIQPKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPRV

TTVSDLTKRNNMDFSIRIGNITPADAGTY YCVKFRKGGSPDDVEFKSGAGTELSVR AKPS
(SEQ ID NO:5).

3. The antibody of claim 1, wherein the antibody binds an extracellular domain of a human SIRP- α v2 polypeptide comprising the amino acid sequence of
EEELQVIQPDKSVSVAAGESAILHCTVTS LIPVGPIQWFRGAGPARELIYNQKEGHFPRVT
TVSESTKRENMDFSISISNITPADAGTY YCVKFRKGGSPDTEFKSGAGTELSVR AKPS (SEQ
ID NO:6).

4. The antibody of any one of claims 1-3, wherein the antibody binds an extracellular domain of a human SIRP- α v1 polypeptide comprising the amino acid sequence of
EEELQVIQPDKSVLVAAGETATLRCTATSLIPVGPIQWFRGAGPGRELIYNQKEGHFPRV
TTVSDLTKRNNMDFSIRIGNITPADAGTY YCVKFRKGGSPDDVEFKSGAGTELSVR AKPS
(SEQ ID NO:5) and binds an extracellular domain of a human SIRP- α v2 polypeptide comprising the amino acid sequence of
EEELQVIQPDKSVSVAAGESAILHCTVTS LIPVGPIQWFRGAGPARELIYNQKEGHFPRVT
TVSESTKRENMDFSISISNITPADAGTY YCVKFRKGGSPDTEFKSGAGTELSVR AKPS (SEQ
ID NO:6).

5. The antibody of any one of claims 1-4, wherein the antibody binds an extracellular domain of a monkey SIRP- α polypeptide.

6. The antibody of claim 5, wherein the monkey SIRP- α polypeptide is a cynomolgus SIRP- α polypeptide.

7. The antibody of claim 6, wherein the antibody binds an extracellular domain of a cynomolgus SIRP- α polypeptide comprising the amino acid sequence of SEQ ID NO:11.

8. The antibody of any one of claims 1-7, wherein the antibody binds an extracellular domain of a murine SIRP- α polypeptide.

9. The antibody of claim 8, wherein the antibody binds an extracellular domain a murine SIRP- α polypeptide that comprises the amino acid sequence of SEQ ID NO: 7.

10. The antibody of any one of claims 1-9, wherein the antibody binds an extracellular domain of a human SIRP- β polypeptide.
11. The antibody of any one of claims 1-10, wherein the antibody binds an extracellular domain of a human SIRP- γ polypeptide.
12. The antibody of any one of claims 10-11, wherein the antibody binds the extracellular domain of a human SIRP- β polypeptide comprising the amino acid sequence of SEQ ID NO:13.
13. The antibody of any one of claims 10-12, wherein the antibody binds the extracellular domain of a human SIRP- γ polypeptide comprising the amino acid sequence of SEQ ID NO:15.
14. The antibody of any one of claims 1-13, wherein the antibody modulates SIRP- α signaling in a cell expressing a human SIRP- α polypeptide.
15. The antibody of claim 14, wherein the cell is a leukocyte selected from the group consisting of a macrophage, a dendritic cell, a neutrophil, an eosinophil, and a myeloid-derived suppressor cell (MDSC).
16. The antibody of claim 15, wherein the antibody inhibits SIRP- α signaling in a macrophage expressing a human SIRP- α polypeptide.
17. The antibody of any one of claims 14-16, wherein the antibody enhances phagocytosis by a macrophage expressing a human SIRP- α polypeptide.
18. The antibody of any one of claims 1-17, wherein the antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide.
19. The antibody of claim 1, wherein the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISAGGSDTYYPASVKG (SEQ ID NO:195), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193).

20. The antibody of claim 19, wherein the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:135, 263, 264, or 330.
21. The antibody of claim 1, wherein the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGSDTYYGDSVKG (SEQ ID NO:197), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193).
22. The antibody of claim 21, wherein the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:137, 265, 266, or 331.
23. The antibody of claim 1, wherein the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SYAMS (SEQ ID NO:200), SYAVS (SEQ ID NO:272), or SYALS (SEQ ID NO:319), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGGDTYYVDSVKG (SEQ ID NO:201), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193).
24. The antibody of claim 23, wherein the VH domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:139, 267, 268, or 332.
25. The antibody of any one of claims 1 and 19-24, wherein the VL domain comprises the sequence FW1—HVR-L1—FW2—HVR-L2—FW3—HVR-L3—FW4 (N-terminus to C-terminus), wherein FW1 comprises the amino acid sequence SYELTQPPSVSVSPGQTARITC (SEQ ID NO:314), FW2 comprises the amino acid sequence WYQQKPGQAPVTLIY (SEQ ID NO:315), FW3 comprises the amino acid sequence NIPERFSGSSSGTTVTLTISGVQAEDEADYYC (SEQ ID NO:316), and FW4 comprises the amino acid sequence FGGGTKLTVL (SEQ ID NO:317).
26. The antibody of any one of claims 1 and 19-25, wherein the VL domain comprises (i) an HVR-L1 sequence comprising the amino acid sequence of SGGSYSSYYA (SEQ ID NO:170), (ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172).

27. The antibody of claim 26, wherein the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:252.

28. The antibody of any one of claims 1 and 19-25, wherein the VL domain comprises (i) an HVR-L1 sequence comprising the amino acid sequence of SGGAYSSYYA (SEQ ID NO:261), (ii) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (iii) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172).

29. The antibody of claim 28, wherein the VL domain comprises an amino acid sequence that is at least 90% identical to the amino acid sequence of SEQ ID NO:262.

30. The antibody of claim 1, wherein

(a) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISAGGSDTYYPASVKG (SEQ ID NO:195), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an HVR-L1 sequence comprising the amino acid sequence of SGGSYSSYYA (SEQ ID NO:170), (v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172);

(b) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGSDTYYGDSVKG (SEQ ID NO:197), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an HVR-L1 sequence comprising the amino acid sequence of SGGSYSSYYA (SEQ ID NO:170), (v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172);

(c) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SYAMS (SEQ ID NO:200), SYAVS (SEQ ID NO:272), or SYALS (SEQ ID NO:319), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGGDTYYVDSVKG (SEQ ID NO:201), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an HVR-L1 sequence comprising the amino acid sequence of SGGSYSSYYA (SEQ ID NO:170), (v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172);

(d) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISAGGSDTYYPASVKG (SEQ ID NO:195), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an HVR-L1 sequence comprising the amino acid sequence of SGGAYSSYYA (SEQ ID NO:261), (v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172);

(e) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SNAMS (SEQ ID NO:194), SNAVS (SEQ ID NO:271), or SNALS (SEQ ID NO:318), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGSDTYYGDSVKG (SEQ ID NO:197), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an HVR-L1 sequence comprising the amino acid sequence of SGGAYSSYYA (SEQ ID NO:261), (v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336), and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172); or

(f) the VH domain comprises (i) an HVR-H1 sequence comprising the amino acid sequence of SYAMS (SEQ ID NO:200), SYAVS (SEQ ID NO:272), or SYALS (SEQ ID NO:319), (ii) an HVR-H2 sequence comprising the amino acid sequence of GISSGGDTYYVDSVKG (SEQ ID NO:201), and (iii) an HVR-H3 sequence comprising the amino acid sequence of ETWNHLFDY (SEQ ID NO:193), and the VL domain comprises (iv) an

HVR-L1 sequence comprising the amino acid sequence of SGGAYSSYYA (SEQ ID NO:261),
(v) an HVR-L2 sequence comprising the amino acid sequence of SDDKRPS (SEQ ID NO:336),
and (vi) an HVR-L3 sequence comprising the amino acid sequence of GGYDQSSYTNP (SEQ ID NO:172).

31. The antibody of claim 1, wherein

(a) the VH domain comprises the amino acid sequence of SEQ ID NO:263, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(b) the VH domain comprises the amino acid sequence of SEQ ID NO:264, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(c) the VH domain comprises the amino acid sequence of SEQ ID NO:330, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(d) the VH domain comprises the amino acid sequence of SEQ ID NO:135, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(e) the VH domain comprises the amino acid sequence of SEQ ID NO:137, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(f) the VH domain comprises the amino acid sequence of SEQ ID NO:139, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(g) the VH domain comprises the amino acid sequence of SEQ ID NO:265, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(h) the VH domain comprises the amino acid sequence of SEQ ID NO:266, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(i) the VH domain comprises the amino acid sequence of SEQ ID NO:331, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(j) the VH domain comprises the amino acid sequence of SEQ ID NO:267, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(k) the VH domain comprises the amino acid sequence of SEQ ID NO:268, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(l) the VH domain comprises the amino acid sequence of SEQ ID NO:332, and the VL domain comprises the amino acid sequence of SEQ ID NO:252;

(m) the VH domain comprises the amino acid sequence of SEQ ID NO:263, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(n) the VH domain comprises the amino acid sequence of SEQ ID NO:264, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(o) the VH domain comprises the amino acid sequence of SEQ ID NO:330, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(p) the VH domain comprises the amino acid sequence of SEQ ID NO:265, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(q) the VH domain comprises the amino acid sequence of SEQ ID NO:266, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(r) the VH domain comprises the amino acid sequence of SEQ ID NO:331, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(s) the VH domain comprises the amino acid sequence of SEQ ID NO:267, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(t) the VH domain comprises the amino acid sequence of SEQ ID NO:268, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(u) the VH domain comprises the amino acid sequence of SEQ ID NO:332, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(v) the VH domain comprises the amino acid sequence of SEQ ID NO:135, and the VL domain comprises the amino acid sequence of SEQ ID NO:262;

(w) the VH domain comprises the amino acid sequence of SEQ ID NO:137, and the VL domain comprises the amino acid sequence of SEQ ID NO:262; or

(x) the VH domain comprises the amino acid sequence of SEQ ID NO:139, and the VL domain comprises the amino acid sequence of SEQ ID NO:262.

32. The antibody of claim 1, wherein the antibody binds to a human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of I31, V33, Q52, K53, T67, R69, N70, and K96, according to SEQ ID NO:296.

33. The antibody of claim 32, wherein the antibody binds to the human SIRP- α v1 polypeptide at I31, V33, Q52, K53, T67, R69, N70, and K96, according to SEQ ID NO:296.

34. The antibody of claim 32 or claim 33, wherein the antibody further binds to the human SIRP- α v1 polypeptide at one or more amino acid positions selected from the group consisting of L30, P32, E54, T62, N71, M72, F74, and R95, according to SEQ ID NO:296.

35. The antibody of claim 34, wherein the antibody further binds to the human SIRP- α v1 polypeptide at L30, P32, E54, T62, N71, M72, F74, and R95, according to SEQ ID NO:296.

36. The antibody of any one of claims 1-35, wherein the antibody is a monoclonal antibody.

37. The antibody of any one of claims 1-35, wherein the antibody is a scFv-Fc antibody.

38. The antibody of any one of claims 1-35, wherein the antibody comprises a light chain constant region comprising the amino acid sequence of SEQ ID NO:325, 326, or 426.

39. The antibody of any one of claims 1-38, wherein the antibody comprises an Fc region.

40. The antibody of claim 39, wherein the antibody comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:320-324.

41. The antibody of claim 39, wherein the Fc region is a human Fc region selected from the group consisting of an IgG1 Fc region, an IgG2 Fc region, and an IgG4 Fc region.

42. The antibody of claim 39, wherein the Fc region comprises a human IgG1 Fc region comprising one or more mutations selected from the group consisting of L234A, L235A, G237A, and N297A, according to EU numbering.
43. The antibody of claim 39, wherein the Fc region comprises a human IgG2 Fc region comprising one or more mutations selected from the group consisting of A330S, P331S and N297A, according to EU numbering.
44. The antibody of claim 39, wherein the Fc region comprises a human IgG4 Fc region comprising one or more mutations selected from the group consisting of S228P, E233P, F234V, L235A, L235E, delG236, and N297A, according to EU numbering.
45. The antibody of any one of claims 1-38, wherein the antibody is an antibody fragment selected from the group consisting of a Fab, F(ab')₂, Fab'-SH, Fv, and scFv fragment.
46. The antibody of claim 1, wherein the VH domain comprises the amino acid sequence of SEQ ID NO:263 and the VL domain comprises the amino acid sequence of SEQ ID NO:252; wherein the antibody comprises a light chain constant region comprising the amino acid sequence of SEQ ID NO:325, 326, or 426; and wherein the antibody further comprises an amino acid sequence selected from the group consisting of SEQ ID NOs:320-324.
47. The antibody of any one of claims 1-46, wherein the antibody is conjugated to a cytotoxic agent or label.
48. The antibody of any one of claims 1-46, wherein the antibody is a bispecific antibody.
49. The antibody of claim 48, wherein the antibody comprises a first antigen binding domain that binds an extracellular domain of a human SIRP- α polypeptide and a second antigen binding domain that binds an antigen expressed by a cancer cell.
50. The antibody of claim 48, wherein the antigen expressed by the cancer cell is selected from the group consisting of CD19, CD20, CD22, CD30, CD33, CD38, CD52, CD56, CD70, CD74, CD79b, CD123, CD138, CS1/SLAMF7, Trop-2, 5T4, EphA4, BCMA, Mucin 1, Mucin 16, PD-L1, PTK7, STEAP1, Endothelin B Receptor, mesothelin, EGFRvIII, ENPP3, SLC44A4, GNMB, nectin 4, NaPi2b, LIV-1A, Guanylyl cyclase C, DLL3, EGFR, HER2, VEGF, VEGFR,

integrin α V β 3, integrin α 5 β 1, MET, IGF1R, TRAILR1, TRAILR2, RANKL, FAP, Tenascin, Le^y, EpCAM, CEA, gpA33, PSMA, TAG72, a mucin, CAIX, EPHA3, folate receptor α , GD2, GD3, and an MHC/peptide complex comprising a peptide from NY-ESO-1/LAGE, SSX-2, a MAGE family protein, MAGE-A3, gp100/pmel17, Melan-A/MART-1, gp75/TRP1, tyrosinase, TRP2, CEA, PSA, TAG-72, immature laminin receptor, MOK/RAGE-1, WT-1, SAP-1, BING-4, EpCAM, MUC1, PRAME, survivin, BRCA1, BRCA2, CDK4, CML66, MART-2, p53, Ras, β -catenin, TGF- β RII, HPV E6, or HPV E7.

51. The antibody of any one of claims 1-50, wherein the antibody is a chicken, humanized, chimeric, or human antibody.
52. The antibody of any one of claims 1-51, wherein the antibody is generated by or derived from a chicken.
53. A polynucleotide encoding the antibody of any one of claims 1-52.
54. A vector comprising the polynucleotide of claim 53.
55. A host cell comprising the polynucleotide of claim 53 or the vector of claim 54.
56. A method of producing an antibody, the method comprising culturing the host cell of claim 55 such that the antibody is produced.
57. The method of claim 56, further comprising recovering the antibody from the host cell.
58. Use of the antibody of any one of claims 1-52 in the manufacture of a medicament for treating or delaying progression of cancer in an individual.
59. The use of claim 58, wherein an effective amount of a second antibody that binds an antigen expressed by the cancer is to be administered to the individual.
60. The use of claim 59, wherein the antigen expressed by the cancer is selected from the group consisting of CD19, CD20, CD22, CD30, CD33, CD38, CD52, CD56, CD70, CD74, CD79b, CD123, CD138, CS1/SLAMF7, Trop-2, 5T4, EphA4, BCMA, Mucin 1, Mucin 16, PTK7, STEAP1, Endothelin B Receptor, mesothelin, EGFRvIII, ENPP3, SLC44A4, GNMB,

nectin 4, NaPi2b, LIV-1A, Guanylyl cyclase C, DLL3, EGFR, HER2, VEGF, VEGFR, integrin $\alpha V\beta 3$, integrin $\alpha 5\beta 1$, MET, IGF1R, TRAILR1, TRAILR2, RANKL, FAP, Tenascin, Le^y, EpCAM, CEA, gpA33, PSMA, TAG72, a mucin, CAIX, EPHA3, folate receptor α , GD2, GD3, and an MHC/peptide complex comprising a peptide from NY-ESO-1/LAGE, SSX-2, a MAGE family protein, MAGE-A3, gp100/pmel17, Melan-A/MART-1, gp75/TRP1, tyrosinase, TRP2, CEA, PSA, TAG-72, immature laminin receptor, MOK/RAGE-1, WT-1, SAP-1, BING-4, EpCAM, MUC1, PRAME, survivin, BRCA1, BRCA2, CDK4, CML66, MART-2, p53, Ras, β -catenin, TGF- β RII, HPV E6, or HPV E7.

61. The use of claim 58, wherein an effective amount of an immunotherapeutic agent is to be administered to the individual.

62. The use of claim 61, wherein the immunotherapeutic agent comprises a second antibody.

63. The use of claim 62, wherein the second antibody binds to an antigen selected from the group consisting of PD-1, PD-L1, OX40, CTLA-4, CD137/4-1BB, TNFR2, B7-H3, FZD7, CD27, CCR4, CSF1R, CSF, TIM-3, LAG-3, VISTA, ICOS, CCR2, IDO, A2R, CD39, CD73, TIGIT, CD80, CD47, arginase, TDO, and PVRIG.

64. The use of claim 63, wherein the first antibody binds the extracellular domain of a human SIRP- α v1 polypeptide, the extracellular domain of a human SIRP- α v2 polypeptide, or the extracellular domains of both a human SIRP- α v1 polypeptide and a human SIRP- α v2 polypeptide with a dissociation constant (K_D) of less than 100nM, wherein the first antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-1.

65. The use of claim 64, wherein the first antibody binds the extracellular domain of a human SIRP- α v1 polypeptide with a dissociation constant (K_D) of less than 100nM, wherein the first antibody blocks binding between an extracellular domain of a human SIRP- α polypeptide and an IgSF domain of a human CD47 polypeptide, and wherein the second antibody binds to PD-L1.