

FCRN ANTAGONISTS WITH IMPROVED HALF-LIFE AND METHODS OF USE**CROSS-REFERENCE TO RELATED APPLICATIONS**

[0001] This application claims priority to, and the benefit of, U.S. provisional application Nos. 63/702,533, filed October 2, 2024, and 63/590,691, filed October 16, 2023, the disclosure of each of which is hereby incorporated by reference in its entirety.

BACKGROUND

[0002] Immunoglobulin gamma (IgG) antibodies play a key role in the pathology of many disorders, such as autoimmune diseases and inflammatory diseases. IgGs generally have a longer half-life than other plasma proteins, in part, due to the binding of the Fc region of IgG to the Fc receptor, FcRn. Although FcRn was originally characterized as a neonatal transport receptor for maternal IgG, it also functions in adults to protect IgG from degradation. FcRn binds to pinocytosed IgG and protects the IgG from transport to degradative lysosomes by recycling it back to the extracellular compartment where it is released from FcRn and can resume its biological function.

[0003] Therapeutics targeting FcRn generally function to inhibit recycling of IgGs by binding to domains responsible for recycling these molecules. As a result, IgG based FcRn antagonists have a significantly shorter half-life than other therapeutics due to the lack of recycling mechanism. As such, there is a need for improved FcRn antagonists with longer half-life.

SUMMARY OF THE DISCLOSURE

[0004] The present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising a modified Fc fragment fused to a half-life extension domain. The present invention is based, in part, on the unexpected discovery that an Fc fusion molecule described herein decreases the concentration of IgG by at least 75% within 5 days.

[0005] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N-terminus to C-terminus, an Fc fragment comprises amino acid substitutions (i) N434Y and (ii) H433R or H433K as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0006] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from C-terminus to N-terminus, an Fc fragment comprises amino acid substitutions (i) N434Y and (ii) H433R or H433K as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0007] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N-terminus to C-terminus an Fc fragment comprises amino acid substitutions N434Y and H433R as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0008] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from C-terminus to N-terminus, an Fc fragment comprises amino acid substitutions N434Y and H433R as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0009] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N-terminus to C-terminus, an Fc fragment comprises amino acid substitutions N434Y and H433K as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0010] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N C-terminus to N-terminus, an Fc fragment comprises amino acid substitutions N434Y and H433K as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0011] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N-terminus to C-terminus an Fc fragment comprises amino acid substitutions M428L and N434F as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0012] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from C-terminus to N-terminus, an Fc fragment comprises amino acid substitutions M428L and N434F as compared

to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0013] In some embodiments, the Fc fragment further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the Fc fragment further comprises the amino acid substitution of H433R or H433K. In some embodiments, the Fc fragment comprises amino acid substitutions of M428L, N434F, M252Y, S254T, T256E, and H433R. In some embodiments, the Fc fragment comprises amino acid substitutions of M428L, N434F, M252Y, S254T, T256E, and H433K.

[0014] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from N-terminus to C-terminus, an Fc fragment comprises amino acid substitutions H433R and N434F as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0015] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to neonatal Fc receptor (FcRn) comprising, from C-terminus to N-terminus, an Fc fragment comprises amino acid substitutions H433R and N434F as compared to an amino acid sequence set forth in SEQ ID NO: 56; a linker; and an albumin or an albumin binding domain.

[0016] In some embodiments, the Fc fragment further comprises amino acid substitutions of M252Y, S254T, and T256E.

[0017] In some embodiments, the Fc fragment further comprises the amino acid substitution of M428L.

[0018] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9 or 57-67.

[0019] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 90% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 1.

[0020] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 2.

[0021] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 98% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 3.

[0022] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 4.

[0023] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 5.

[0024] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an

amino acid sequence identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 6.

[0025] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 7.

[0026] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an

amino acid sequence at least 95% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 8.

[0027] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 9.

[0028] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 98% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 57.

[0029] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 58.

[0030] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 59.

[0031] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an

amino acid sequence identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 60.

[0032] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 61.

[0033] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an

amino acid sequence at least 95% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 62.

[0034] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 63.

[0035] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 98% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 64.

[0036] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 65.

[0037] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 66.

[0038] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an

amino acid sequence identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 67.

[0039] In some embodiments, the Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9 or 57-67.

[0040] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 5.

[0041] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 9.

[0042] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 62.

[0043] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence

identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 67.

[0044] In some embodiments, the Fc fusion molecule comprises an albumin. In some embodiments, the albumin comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 80% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 85% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 90% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 95% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 96% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 97% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 98% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 99% identical to SEQ ID NO: 10.

[0045] In some embodiments, the Fc fusion molecule comprises an albumin binding domain. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 85% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 90% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 95% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 96% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 97% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence

at least 98% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 99% identical to SEQ ID NO: 11.

[0046] In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 85% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 90% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 95% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 96% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 97% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 98% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 99% identical to SEQ ID NO: 12.

[0047] In some embodiments, the linker comprises glycine and serine. In some embodiments, the linker comprises one or more repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 2, at least 3, at least 4, at least 5, at least 6, at least 7, or at least 8 repeating units of GGGGS (SEQ ID NO: 13).

[0048] In some embodiments, the linker comprises at least 2 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 3 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 4 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 5 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 6 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 7 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises at least 8 repeating units of GGGGS (SEQ ID NO: 13).

[0049] In some embodiments, the linker comprises 2 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises 3 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises 4 repeating units of GGGGS (SEQ ID NO: 13).

NO: 13). In some embodiments, the linker comprises 5 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises 6 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises 7 repeating units of GGGGS (SEQ ID NO: 13). In some embodiments, the linker comprises 8 repeating units of GGGGS (SEQ ID NO: 13).

[0050] In some embodiments, the linker comprises a sequence according to any one of SEQ ID NOs: 13-15. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 13. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 14. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 15.

[0051] In some embodiments, the Fc fragment is derived from an IgG1, IgG2 or IgG4 immunoglobulin domain. In some embodiments, the Fc fragment is derived from an IgG1 immunoglobulin domain. In some embodiments, the Fc fragment is derived from an IgG2 immunoglobulin domain. In some embodiments, the Fc fragment is derived from an IgG4 immunoglobulin domain.

[0052] In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, the Fc fragment, the linker, and the albumin or albumin binding domain. In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, the Fc fragment, the linker, and the albumin. In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, the Fc fragment, the linker, and the albumin binding domain.

[0053] In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, the Fc fragment, the linker, and the albumin or albumin binding domain. In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, the Fc fragment, the linker, and the albumin. In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, the Fc fragment, the linker, and the albumin binding domain.

[0054] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to FcRn comprising an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 16-55. In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to FcRn comprising an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc

fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 16. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 17. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 18. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 19. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 20.

[0055] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 21. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 22. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 23. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 24. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 25.

[0056] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 26. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 27. In some

at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 40.

[0059] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 41. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 42. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 43. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 44. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 45.

[0060] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 46. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 47. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 48. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 49. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 50.

[0061] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 51. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 52. In some

embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 53. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 54. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 55.

[0062] In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 68. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 69. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 70. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 71. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 72. In some embodiments, the Fc fusion molecule comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 73.

[0063] In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to FcRn comprising an amino acid sequence identical to any one of SEQ ID NOs: 16-55. In one aspect, the present invention provides, among other things, an Fc fusion molecule that binds to FcRn comprising an amino acid sequence identical to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 16. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 17. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 18. In some embodiments, the Fc fusion molecule comprises an

amino acid sequence identical to SEQ ID NO: 19. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 20.

[0064] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 21. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 22. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 23. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 24. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 25.

[0065] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 26. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 27. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 28. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 29. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 30.

[0066] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 31. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 32. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 33. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 34. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 35.

[0067] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 36. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 37. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 38. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 39. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 40.

[0068] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 41. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 42. In some embodiments, the Fc fusion

molecule comprises an amino acid sequence identical to SEQ ID NO: 43. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 44. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 45.

[0069] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 46. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 47. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 48. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 49. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 50.

[0070] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 51. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 52. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 53. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 54. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 55.

[0071] In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 68. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 69. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 70. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 71. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 72. In some embodiments, the Fc fusion molecule comprises an amino acid sequence identical to SEQ ID NO: 73.

[0072] In some embodiments, the Fc fusion molecule further comprises a second Fc fragment. In some embodiments, the second Fc fragment is an Fc fragment described herein.

[0073] In some embodiments, the second Fc fragment comprises the same amino acid substitutions of the first Fc fragment. In some embodiments, the first Fc fragment and the second Fc fragment are further modified to promote heterodimerization. In some embodiments, the first Fc fragment and the second Fc fragment further comprise one or more amino acid substitutions selected from Y349C, S354C, T366S, T366W, T366Y, L368A, Y407T, Y407V.

[0074] In some embodiments, the first Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid substitutions S354C and T366W. In some embodiments, the second Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitutions S354C and T366W. In some embodiments, the first Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid substitution T266W. In some embodiments, the second Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitution T266W.

[0075] In some embodiments, the second Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 1-9. In some embodiments, the second Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9.

[0076] Described herein, in certain embodiments, are Fc fusion molecules that binds neonatal Fc receptor (FcRn) comprising from N-terminus to C-terminus or C-terminus to N-terminus: a) an Fc fragment comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 1-9; b) a linker; and c) an albumin or an albumin binding domain comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 10-12. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 14, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid

sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 4 or SEQ ID NO: 5, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 4 or SEQ ID NO: 5, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker

comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 8 or SEQ ID NO: 9, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 8 or SEQ ID NO: 9, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid

sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11. In some embodiments, the Fc fusion molecule further comprises a second Fc fragment comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 1-9.

[0077] Described herein, in certain embodiments, are Fc fusion molecules that binds neonatal Fc receptor (FcRn) comprising a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule binds to FcRn with a K_D of less than or equal to about 1×10^{-8} M, at pH 6.0 or pH 7.4 as measured by surface plasmon resonance (SPR). In some embodiments, the Fc fusion molecule comprises a half-life at least 2 fold longer as compared to an Fc fusion molecule not comprising an albumin or an albumin binding domain. In some embodiments, the Fc fusion molecule comprises a half-life at least 2 fold longer as compared to an Fc fragment. In some embodiments, the albumin or the albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 10-12 any one of SEQ ID NOs: 10-12.

[0078] In some embodiments, the Fc fusion molecule reduces IgG levels to less than 60%, to less than 50%, to less than 40%, to less than 30%, or to less than 25%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 60%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 50%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 40%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 30%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 25%.

[0079] Described herein, in certain embodiments, are pharmaceutical compositions, comprising the Fc fusion molecule described herein and a pharmaceutically acceptable carrier.

[0080] Described herein, in certain embodiments, are methods of treating a disease or disorder in a patient in need thereof, the method comprising administering to the patient an effective amount of the Fc fusion molecule described herein or a pharmaceutical composition described herein. In some embodiments, the disease or disorder is an autoimmune disease. In some embodiments, the disease or disorder is generalized myasthenia gravis (gMG), chronic inflammatory demyelinating polyneuropathy, myositis, autoimmune encephalitis, myelin oligodendrocyte glycoprotein antibody disorders (MOG-antibody disorder), membranous nephropathy, lupus nephritis, thyroid eye disease, warm autoimmune hemolytic anemia, hemolytic disease of the fetus and newborn, idiopathic thrombocytopenic purpura, primary

Sjogren's Syndrome, systemic lupus erythematosus, rheumatoid arthritis, bullous pemphigoid, pemphigus foliaceus, pemphigus vulgaris, or cutaneous lupus erythematosus. In some embodiments, the method reduces disease severity in a patient and wherein disease severity is assessed by an gMG Disease Severity Outcome Measure.

[0081] Described herein, in certain embodiments, are methods for treating a pathology associated with elevated levels of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the isolated Fc fragment described herein or a pharmaceutical composition described herein.

[0082] Described herein, in certain embodiments, are methods of reducing biological activity of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecule described herein or a pharmaceutical composition described herein. In some embodiments, the disease is an autoimmune disease.

[0083] Described herein, in certain embodiments, are methods of preventing a disorder in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the Fc fusion molecule described herein or a pharmaceutical composition described herein; wherein the disorder is an unwanted side-effect of a therapeutic antibody.

[0084] In one aspect, the present invention provides, among other things, a method of reducing IgG levels in a patient in need thereof, wherein the method comprises administering a therapeutically effective amount of the Fc fusion molecule described herein, or the pharmaceutical composition described herein.

[0085] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60%, to less than 50%, to less than 40%, to less than 30%, or to less than 25% for at least 5 days, 7 days, 10 days, 15 days, or 20 days post administration.

[0086] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60%. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 50%. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40%. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30%. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25%.

[0087] In some embodiments, the IgG levels are reduced for at least 5 days post-administration. In some embodiments, the IgG levels are reduced for at least 7 days post-administration. In some embodiments, the IgG levels are reduced for at least 10 days post-

administration. In some embodiments, the IgG levels are reduced for at least 15 days post-administration. In some embodiments, the IgG levels are reduced for at least 20 days post-administration.

[0088] In some embodiments, the IgG levels are reduced as compared to a baseline. In some embodiments, the baseline is the IgG level in the patient prior to administration. In some embodiments, the baseline is the IgG level in a comparable patient without the administration of the Fc fusion molecule described herein.

BRIEF DESCRIPTION OF THE DRAWINGS

[0089] The novel features of the disclosure are set forth with particularity in the appended claims. A better understanding of the features and advantages of the present disclosure will be obtained by reference to the following detailed description that sets forth illustrative embodiments, in which the principles of the disclosure are utilized, and the accompanying drawings of which:

[0090] **FIGs. 1A-1D** depict exemplary formats of bivalent and monovalent Fc fusion molecules. **FIG. 1A** depicts an exemplary bivalent Fc fusion molecule comprising an N-terminal albumin or an albumin binding domain (ABD), a linker, and a C-terminal Fc domain (Format 1). **FIG. 1B** depicts an exemplary bivalent Fc fusion molecule comprising an N-terminal Fc domain, a linker, and a C-terminal albumin or an albumin binding domain (ABD) (Format 2). **FIG. 1C** depicts an exemplary monovalent Fc fusion molecule comprising an N-terminal albumin or an albumin binding domain (ABD), a linker, and a C-terminal Fc domain (Format 3). **FIG. 1D** depicts an exemplary monovalent Fc fusion molecule comprising a C-terminal Fc domain, a linker, and an N-terminal albumin or an albumin binding domain (ABD) (Format 4).

[0091] **FIGs. 2A-2D** depict SPR kinetic analyses of bivalent Fc fusion molecules to human serum albumin (HSA). **FIG. 2A** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 5 immobilized on a CM5 chip at pH 7.4. **FIG. 2B** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 5 immobilized on a CM5 chip at pH 6.0. **FIG. 2C** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 6 immobilized on a CM5 chip at pH 7.4. **FIG. 2D** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 6 immobilized on a CM5 chip at pH 6.0. The dark grey and light grey lines represent the data and fit, respectively.

[0092] **FIGs. 3A-3D** depict SPR kinetic analyses of bivalent Fc fusion molecules to Human FCRN (huFCRN). **FIG. 3A** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 5 immobilized on a CM5 chip at pH 7.4. **FIG. 3B** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 5 immobilized on a CM5 chip at pH 6.0. **FIG. 3C** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 6 immobilized on a CM5 chip at pH 7.4. **FIG. 3D** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 6 immobilized on a CM5 chip at pH 6.0.

[0093] **FIGs. 4A-4D** depict SPR kinetic analyses of monovalent Fc fusion molecules to human serum albumin (HSA). **FIG. 4A** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 11 immobilized on a CM5 chip at pH 7.4. **FIG. 4B** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 11 immobilized on a CM5 chip at pH 6.0. **FIG. 4C** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 12 immobilized on a CM5 chip at pH 7.4. **FIG. 4D** depicts a sensorgram of the titration of HSA on Fc Fusion Molecule 12 immobilized on a CM5 chip at pH 6.0.

[0094] **FIGs. 5A-5D** depict SPR kinetic analyses of monovalent Fc fusion molecules to Human FCRN (huFCRN). **FIG. 5A** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 11 immobilized on a CM5 chip at pH 7.4. **FIG. 5B** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 11 immobilized on a CM5 chip at pH 6.0. **FIG. 5C** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 12 immobilized on a CM5 chip at pH 7.4. **FIG. 5D** depicts a sensorgram of the titration of huFCRN on Fc Fusion Molecule 12 immobilized on a CM5 chip at pH 6.0.

[0095] **FIG. 6** depicts a schema of the pharmacokinetic study performed in mice.

[0096] **FIGs. 7A-7E** depict data of the pharmacokinetic (PK) and pharmacodynamic (PD) profiles for the various Fc fusion molecules including PD effect of the Fc fusion molecules as determined by human IVIG tracer reduction (**FIGs. 7C-7E**).

[0097] **FIG. 8** depicts exemplary graphs showing the degradation of FcRn-GFP in HEK cells in the presence of exemplary Fc fusion molecules.

DETAILED DESCRIPTION

Definitions

[0098] Unless otherwise defined, all terms of art, notations and other scientific terminology used herein are intended to have the meanings commonly understood by those of skill in the art. In some cases, terms with commonly understood meanings are defined herein for clarity

and/or for ready reference, and the inclusion of such definitions herein should not necessarily be construed to represent a difference over what is generally understood in the art. The techniques and procedures described or referenced herein are generally well understood and commonly employed using conventional methodologies by those skilled in the art, such as, for example, the widely utilized molecular cloning methodologies described in Sambrook et al., *Molecular Cloning: A Laboratory Manual* 4th ed. (2012) Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY. As appropriate, procedures involving the use of commercially available kits and reagents are generally carried out in accordance with manufacturer-defined protocols and conditions unless otherwise noted.

[0099] Any numerical values used in this application are meant to cover any variations within the standard deviation or normal fluctuations appreciated by one of ordinary skill in the relevant art.

[00100] As used herein, unless otherwise indicated, the term “antibody” is understood to mean an intact antibody (*e.g.*, an intact monoclonal antibody), or a fragment thereof, such as an Fc fragment of an antibody (*e.g.*, an Fc fragment of a monoclonal antibody), or an antigen-binding fragment of an antibody (*e.g.*, an antigen-binding fragment of a monoclonal antibody), including an intact antibody, antigen-binding fragment, or Fc fragment that has been modified, engineered, or chemically conjugated. In general, antibodies are multimeric proteins that contain four polypeptide chains. Two of the polypeptide chains are called immunoglobulin heavy chains (H chains), and two of the polypeptide chains are called immunoglobulin light chains (L chains). The immunoglobulin heavy and light chains are connected by an interchain disulfide bond. The immunoglobulin heavy chains are connected by interchain disulfide bonds. A light chain consists of one variable region (VL) and one constant region (CL). The heavy chain consists of one variable region (VH) and at least three constant regions (CH1, CH2 and CH3). The variable regions determine the binding specificity of the antibody. Each variable region contains three hypervariable regions known as complementarity determining regions (CDRs) flanked by four relatively conserved regions known as framework regions (FRs). The extent of the FRs and CDRs has been defined (Kabat, E.A., et al. (1991) *Sequences of Proteins of Immunological Interest*, Fifth Edition, U.S. Department of Health and Human Services, NIH Publication No. 91-3242; and Chothia, C. et al. (1987) *J. Mol. Biol.* 196:901-917). The three CDRs, referred to as CDR1, CDR2, and CDR3, contribute to the antibody binding specificity. Naturally occurring antibodies have been used as starting material for engineered antibodies, such as chimeric antibodies and humanized antibodies. Examples of antibody-based antigen-

binding fragments include Fab, Fab', (Fab')₂, Fv, single chain antibodies (*e.g.*, scFv), minibodies, and diabodies. Examples of antibodies that have been modified or engineered include chimeric antibodies, humanized antibodies, and multispecific antibodies (*e.g.*, bispecific antibodies). An example of a chemically conjugated antibody is an antibody conjugated to a toxin moiety.

[00101] An “Fc polypeptide” of a dimeric Fc as used herein refers to one of the two polypeptides forming the dimeric Fc domain, *i.e.* a polypeptide comprising C-terminal constant regions of an immunoglobulin heavy chain, capable of stable self-association. For example, an Fc polypeptide of a dimeric IgG Fc comprises an IgG CH2 and an IgG CH3 constant domain sequence. An Fc can be of the class IgA, IgD, IgE, IgG, and IgM. These classes are also designated α , δ , ϵ , γ , and μ , respectively. Several of these may be further divided into subclasses (isotypes), *e.g.*, IgG1, IgG2, IgG3, IgG4, IgA1, and IgA2.

[00102] The terms “Fc receptor” and “FcR” are used to describe a receptor that binds to the Fc region of an antibody. For example, an FcR can be a native sequence human FcR. Generally, an FcR is one which binds an IgG antibody (a gamma receptor) and includes receptors of the Fc γ RI, Fc γ RII, and Fc γ RIII subclasses, including allelic variants and alternatively spliced forms of these receptors. Fc γ RII receptors include Fc γ RIIA (an “activating receptor”) and Fc γ RIIB (an “inhibiting receptor”), which have similar amino acid sequences that differ primarily in the cytoplasmic domains thereof. Immunoglobulins of other isotypes can also be bound by certain FcRs (see, *e.g.*, Janeway *et al.*, *Immuno Biology*: the immune system in health and disease, (Elsevier Science Ltd., NY) (4th ed., 1999)). Activating receptor Fc γ RIIA contains an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. Inhibiting receptor Fc γ RIIB contains an immunoreceptor tyrosine-based inhibition motif (ITIM) in its cytoplasmic domain (reviewed in Daëron, *Annu. Rev. Immunol.* 15:203-234 (1997)). FcRs are reviewed in Ravetch and Kinet, *Annu. Rev. Immunol.* 9:457-92 (1991); Capel *et al.*, *Immunomethods* 4:25-34 (1994); and de Haas *et al.*, *J. Lab. Clin. Med.* 126:330-41 (1995). Other FcRs, including those to be identified in the future, are encompassed by the term “FcR” herein. The term also includes the neonatal receptor, FcRn, which is responsible for the transfer of maternal IgGs to the fetus (Guyer *et al.*, *J. Immunol.* 117:587 (1976); and Kim *et al.*, *J. Immunol.* 24:249 (1994)).

[00103] The terms “recipient”, “individual”, “subject”, “host”, and “patient”, are used interchangeably herein and in some embodiments, refer to any mammalian subject for whom diagnosis, treatment, or therapy is desired, particularly humans. “Mammal” for purposes of

treatment refers to any animal classified as a mammal, including humans, domestic and farm animals, and laboratory, zoo, sports, or pet animals, such as dogs, horses, cats, cows, sheep, goats, pigs, mice, rats, rabbits, guinea pigs, monkeys etc. In some embodiments, the mammal is human. None of these terms require the supervision of medical personnel.

[00104] As used herein, the term “effective amount” refers to the amount of a compound (*e.g.*, a compound of the present disclosure) sufficient to effect beneficial or desired results. An effective amount can be administered in one or more administrations, applications or dosages and is not intended to be limited to a particular formulation or administration route. As used herein, the term “treating” includes any effect, *e.g.*, lessening, reducing, modulating, ameliorating or eliminating, that results in the improvement of the condition, disease, disorder, and the like, or ameliorating a symptom thereof.

[00105] As used herein, the term “pharmaceutical composition” refers to the combination of an active agent with a carrier, inert or active, making the composition especially suitable for diagnostic or therapeutic use *in vivo* or *ex vivo*.

[00106] As used herein, the term “pharmaceutically acceptable carrier” refers to any of the standard pharmaceutical carriers, such as a phosphate buffered saline solution, water, emulsions (*e.g.*, such as an oil/water or water/oil emulsions), and various types of wetting agents. The compositions also can include stabilizers and preservatives. For examples of carriers, stabilizers and adjuvants, *see e.g.*, Martin, Remington's Pharmaceutical Sciences, 15th Ed., Mack Publ. Co., Easton, PA (1975).

[00107] As used herein, the singular form “a”, “an”, and “the” includes plural references unless indicated otherwise.

[00108] It is understood that aspects and embodiments of the invention described herein include “comprising,” “consisting,” and “consisting essentially of” aspects and embodiments.

[00109] For all compositions described herein, and all methods using a composition described herein, the compositions can either comprise the listed components or steps, or can “consist essentially of” the listed components or steps. When a composition is described as “consisting essentially of” the listed components, the composition contains the components listed, and may contain other components which do not substantially affect the condition being treated, but do not contain any other components which substantially affect the condition being treated other than those components expressly listed; or, if the composition does contain extra components other than those listed which substantially affect the condition being treated, the composition does not contain a sufficient concentration or amount of the extra components to

substantially affect the condition being treated. When a method is described as “consisting essentially of” the listed steps, the method contains the steps listed, and may contain other steps that do not substantially affect the condition being treated, but the method does not contain any other steps which substantially affect the condition being treated other than those steps expressly listed. As a non-limiting specific example, when a composition is described as ‘consisting essentially of’ a component, the composition may additionally contain any amount of pharmaceutically acceptable carriers, vehicles, or diluents and other such components which do not substantially affect the condition being treated.

[00110] The term “about” indicates and encompasses an indicated value and a range above and below that value. In certain embodiments, the term “about” indicates the designated value $\pm 10\%$, $\pm 5\%$, or $\pm 1\%$. In certain embodiments, where applicable, the term “about” indicates the designated value(s) $\pm$ one standard deviation of that value(s).

[00111] The term “optionally” is meant, when used sequentially, to include from one to all of the enumerated combinations and contemplates all sub-combinations.

[00112] The term “amino acid” refers to the twenty common naturally occurring amino acids. Naturally occurring amino acids include alanine (Ala; A), arginine (Arg; R), asparagine (Asn; N), aspartic acid (Asp; D), cysteine (Cys; C), glutamic acid (Glu; E), glutamine (Gln; Q), Glycine (Gly; G), histidine (His; H), isoleucine (Ile; I), leucine (Leu; L), lysine (Lys; K), methionine (Met; M), phenylalanine (Phe; F), proline (Pro; P), serine (Ser; S), threonine (Thr; T), tryptophan (Trp; W), tyrosine (Tyr; Y), and valine (Val; V).

[00113] The term “affinity” refers to the strength of the sum total of non-covalent interactions between a single binding site of a molecule (e.g., an Fc fragment) and its binding partner (e.g., FcRn). Unless indicated otherwise, as used herein, “affinity” refers to intrinsic binding affinity, which reflects a 1:1 interaction between members of a binding pair (e.g., an Fc fragment and FcRn). Affinity is indirectly proportional to K_D .

[00114] The term “ k_d ” (sec⁻¹), as used herein, refers to the dissociation rate constant of a particular antibody - antigen or protein - protein interaction. This value is also referred to as the k_{off} value.

[00115] The term “ k_a ” (M⁻¹sec⁻¹), as used herein, refers to the association rate constant of a particular antibody - antigen interaction or protein - protein. This value is also referred to as the k_{on} value.

[00116] The term “ K_D ” or “ K_D ” (M), as used herein, refers to the dissociation equilibrium constant of a particular antibody – antigen or protein - protein interaction. $K_D = k_d/k_a$. In some

embodiments, the affinity of a protein is described in terms of the K_D for an interaction between such protein and its binding partner. For clarity, as known in the art, a smaller K_D value indicates a higher affinity interaction, while a larger K_D value indicates a lower affinity interaction.

[00117] The term “measurable K_D ” or “measurable K_D ” as used herein, means a K_D value that is less than 1M, less than 0.1M, less than 0.01M, less than 0.001M, less than 1×10^{-4} M, less than 1×10^{-5} M, or less than 1×10^{-6} M.

[00118] The term “ K_A ” (M⁻¹), as used herein, refers to the association equilibrium constant of a particular antibody - antigen or protein - protein interaction. $K_A = k_a/k_d$.

[00119] “Percent (%) identity” refers to the extent to which two sequences (nucleotide or amino acid) have the same residue at the same positions in an alignment. For example, “an amino acid sequence is X% identical to SEQ ID NO: Y” refers to % identity of the amino acid sequence to SEQ ID NO: Y and is elaborated as X% of residues in the amino acid sequence are identical to the residues of sequence disclosed in SEQ ID NO: Y. Generally, computer programs are employed for such calculations. Exemplary programs that compare and align pairs of sequences include ALIGN (Myers and Miller, 1988), FASTA (Pearson and Lipman, 1988; Pearson, 1990) and gapped BLAST (Altschul et al., 1997), BLASTP, BLASTN, or GCG (Devereux et al., 1984).

FC FUSION MOLECULES

[00120] Described herein, in certain embodiments, are Fc fusion molecules that bind neonatal Fc receptor (FcRn).

Fc Fragments

[00121] Described herein, in certain embodiments, are Fc fusion molecules that bind neonatal Fc receptor (FcRn) comprising an Fc fragment. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 80% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 95%

sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 1-9 or 57-67. In some embodiments, the Fc fusion molecule comprises an Fc fragment comprising a sequence according to any one of SEQ ID NOs: 1-9 or 57-67. Amino acid sequences of exemplary Fc fragments are shown in **Table 1A**.

Table 1A. Exemplary Fc Fragments.

Identifier	Description	Amino Acid sequence
WT human IgG1 Fc (SEQ ID NO: 56)	Human IgG1 (221-446)	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALHNNHYTQKSLSLSPG
Efgartigimod (Efgart) Fc Fragment 1 (SEQ ID NO: 1)	hIgG1_Fc_M25 2Y/S254T/T256 E/H433K/N434 F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc195 Fc Fragment 2 (SEQ ID NO: 2)	IgG1 Fc_M252Y/S25 4T/T256E/M42 8L/H433K/N43 4F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVLHEALKFHYTQKSLSLSPG
Fc197 Fc Fragment 3 (SEQ ID NO: 3)	IgG1 Fc_M252Y/S25 4T/T256E/H43 3K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Efgart(H) Fc Fragment 4 (SEQ ID NO: 4)	hIgG1_Fc_M25 2Y/S254T/T256 E/Y349C/T366 S/L368A/Y407 V/H433K/N434 F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Efgart(K) Fc Fragment 5 (SEQ ID NO: 5)	hIgG1_Fc_M25 2Y/S254T/T256 E/S354C/T366 W/H433K/N43 4F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCCLKVGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc197(H)	hIgG1_Fc_M25 2Y/S254T/T256	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD

Fc Fragment 6 (SEQ ID NO: 6)	E/Y349C/T366 S/L368A/Y407 V/H433K/N434 Y	WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPG
Fc197(K) Fc Fragment 7 (SEQ ID NO: 7)	hIgG1_Fc_M25 2Y/S254T/T256 E/S354C/T366 W/H433K/N43 4Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPG
Fc195(H) Fc Fragment 8 (SEQ ID NO: 8)	hIgG1_Fc_M25 2Y/S254T/T256 E/Y349C/T366 S/L368A/Y407 V/M428L/H433 K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQGNVFSCSVLHEALKFHHTQKSLSLSPG
Fc195(K) Fc Fragment 9 (SEQ ID NO: 9)	hIgG1_Fc_M25 2Y/S254T/T256 E/S354C/T366 W/M428L/H43 3K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVLHEALKFHHTQKSLSLSPG
Fc Fragment 10 (SEQ ID NO: 57)	IgG1 Fc_M252Y/S25 4T/T256E/M42 8L/H433K/N43 4Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVLHEALKYHYTQKSLSLSPG
Fc Fragment 11 (SEQ ID NO: 58)	IgG1 Fc_M252Y/S25 4T/T256E/M42 8L/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVLHEALHFHYTQKSLSLSPG
Fc Fragment 12 (SEQ ID NO: 59)	IgG1 Fc_M252Y/S25 4T/T256E/H43 3R/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALRYHYTQKSLSLSPG
Fc Fragment 13 (SEQ ID NO: 60)	IgG1 Fc_M252Y/S25 4T/T256E/H43 3R/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALRFHYTQKSLSLSPG
Fc Fragment 14 (SEQ ID NO: 61)	IgG1 Fc_M252Y/S25 4T/T256E/M42 8L/H433R/N43 4F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVLHEALRFHYTQKSLSLSPG
Fc Fragment 15 (SEQ ID NO: 62)	IgG1 Fc_M252Y/S25 4T/T256E/L309 D/H433K/N434 F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKFHHTQKSLSLSPG
Fc Fragment 16 (SEQ ID NO: 63)	IgG1 Fc_M252Y/S25 4T/T256E/L309 D/H433K/N434 Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPG
Fc Fragment 17 (SEQ ID NO: 64)	IgG1 Fc_M252Y/S25 4T/T256E/L309	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL

	D/M428L/H433 K/N434F	TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSCSVLHEALKFHYTQKSLSLSPG
Fc Fragment 18 (SEQ ID NO: 65)	IgG1 Fc_M252Y/S25 4T/T256E/L309 D/M428L/H433 K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVDHQD WLNQKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSCSVLHEALKYHYTQKSLSLSPG
Fc Fragment 19 (SEQ ID NO: 66)	IgG1 Fc_M252Y/S25 4T/T256E/L309 D/Q311K/H433 K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVDHKD WLNQKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc Fragment 20 (SEQ ID NO: 67)	IgG1 Fc_M252Y/S25 4T/T256E/L309 D/Q311K/H433 K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVDHKD WLNQKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG

[00122] In some embodiments, the Fc fusion molecules comprise a modified Fc or Fc fragment comprising one or more modifications. In some embodiments, the Fc fragment is an IgG subclass IgG1, IgG2 or IgG4. In some embodiments, the one or more modifications are located in an Fc from IgG1 (e.g., human IgG1 (hIgG1)). In some embodiments, the one or more modifications are located in an Fc from IgG4 (e.g., human IgG4 (hIgG4)). In some embodiments, the one or more modifications are located in an Fc from IgG2. In some embodiments, the one or more modifications promote selective binding of Fc-gamma receptors.

[00123] In some embodiments, the Fc fragment is modified using knobs-into-holes, strand-exchange engineered domain (SEED), or steric modification technology. In some embodiments, the Fc fragment is modified to promote Fc heterodimerization. In some embodiments, the Fc fragment comprises a variant (e.g., a knobs-into-hole variant). In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises at least one amino acid substitution selected from Y349C, S354C, T366S, T366W, L368A, Y407V, M428L, H433K, N434F, and N434Y. In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises at least one amino acid substitution selected from Y349C, S354C, T366S, T366W, T366Y, L368A, Y407T, Y407V, M428L, H433K, N434F, and N434Y.

[00124] In some embodiments, the Fc fragment binds neonatal Fc receptor (FcRn) from human, cyno, mouse, or rat. In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises at least one

amino acid substitution selected from M428L, H433R and N434Y. In some embodiments, the isolated Fc fragment comprises additional amino acid substitutions at one or more of amino acid positions 252, 254, and 256 of SEQ ID NO: 56. In some embodiments, the additional amino acid substitutions are M252Y, S254T, and/or T256E.

[00125] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises an amino acid substitution at position 428. In some embodiments, the amino acid substitution is M428L. In some embodiments, the Fc fragment comprises additional amino acid substitutions at one or more of amino acid positions 252, 254, 256, 433, and 434 of SEQ ID NO: 56. In some embodiments, the additional amino acid substitutions are M252Y, S254T, T256E, H433K, H433R, N434F and/or N434Y.

[00126] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises an amino acid substitution H433R. In some embodiments, the additional amino acid substitutions are at one or more of amino acid positions 252, 254, 256, 428, and 434 of SEQ ID NO: 56. In some embodiments, the one or more additional amino acid substitutions are M252Y, S254T, T256E, M428L, N434F and/or N434Y.

[00127] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises an amino acid substitution N434Y. In some embodiments, the Fc fragment comprises an additional amino acid substitution at one or more of amino acid positions 252, 254, 256, 428, and 433 of SEQ ID NO: 56. In some embodiments, the amino acid substitutions are M252Y, S254T, T256E, M428L, H433K, and/or H433R.

[00128] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises an amino acid substitution H433K, and additional amino acid substitutions at one or more of amino acid positions 252, 254, 256, 428, and 434. In some embodiments, the additional amino acid substitutions are M252Y, S254T, T256E, M428L, N434F and/or N434Y.

[00129] In some embodiments the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises amino acid substitutions (i) N434Y and (ii) H433R or H433K. In some embodiments, the variant further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the variant further comprises the amino acid substitution of M428L. In some embodiments, the variant

comprises amino acid substitutions of M252Y, S254T, T256E, M428L, H433K, and N434Y. In some embodiments, the variant comprises amino acid substitutions of M252Y, S254T, T256E, H433K, and N434Y.

[00130] In some embodiments the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises amino acid substitutions N434Y and H433R. In some embodiments, the variant further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the variant further comprises the amino acid substitution of M428L. In some embodiments, the variant comprises amino acid substitutions of M252Y, S254T, T256E, H433R, and N434Y.

[00131] In some embodiments the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises amino acid substitutions N434Y and H433K. In some embodiments, the variant further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the variant further comprises the amino acid substitution of M428L.

[00132] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises amino acid substitutions of M428L and N434F. In some embodiments, the variant further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the variant further comprises the amino acid substitution of H433R or H433K. In some embodiments, the variant comprises amino acid substitutions of M428L, N434F, M252Y, S254T, T256E, and H433R. In some embodiments, the variant comprises amino acid substitutions of M428L, N434F, M252Y, S254T, T256E, and H433K. In some embodiments, the variant comprises amino acid substitutions of M428L, N434F, M252Y, S254T, and T256E.

[00133] In some embodiments, the Fc fragment comprises a variant of the amino acid sequence set forth in SEQ ID NO: 56, wherein the variant comprises amino acid substitutions of H433R and N434F. In some embodiments, the variant further comprises amino acid substitutions of M252Y, S254T, and T256E. In some embodiments, the variant further comprises the amino acid substitution of M428L. In some embodiments, the variant comprises amino acid substitutions of M252Y, S254T, T256E, H433R, and N434F.

[00134] Unless otherwise specified herein, numbering of amino acid residues in the Fc region or constant region is according to the EU numbering system, also called the EU index, as described in Kabat et al, Sequences of Proteins of Immunological Interest, 5th Ed. Public Health Service, National Institutes of Health, Bethesda, MD, 1991. An “Fc polypeptide” of a

dimeric Fc as used herein refers to one of the two polypeptides forming the dimeric Fc domain, i.e. a polypeptide comprising C-terminal constant regions of an immunoglobulin heavy chain, capable of stable self-association. For example, an Fc polypeptide of a dimeric IgG Fc comprises an IgG CH2 and an IgG CH3 constant domain sequence. In certain aspects, the Fc fragments disclosed herein comprise the C-terminal 226 amino acids of the full human IgG Fc region. An Fc can be of the class IgG, and may be further divided into subclasses (isotypes), e.g., IgG₁, IgG₂, IgG₃, and IgG₄. In certain aspects, the Fc fragments described herein are of the IgG₁ subclass. In certain aspects, the Fc fragments described herein are variants of the human IgG₁ Fc region set forth in SEQ ID NO: 1. In certain aspects, the Fc fragments described herein are of the IgG₂ subclass. In certain aspects, the Fc fragments described herein are of the IgG₄ subclass.

[00135] The terms “Fc receptor” and “FcR” are used to describe a receptor that binds to the Fc region of an antibody. For example, an FcR can be a native sequence human FcR. Generally, an FcR is one which binds an IgG antibody (a gamma receptor) and includes receptors of the FcγRI, FcγRII, and FcγRIII subclasses, including allelic variants and alternatively spliced forms of these receptors. FcγRII receptors include FcγRIIA (an “activating receptor”) and FcγRIIB (an “inhibiting receptor”), which have similar amino acid sequences that differ primarily in the cytoplasmic domains thereof. Immunoglobulins of other isotypes can also be bound by certain FcRs (see, e.g., Janeway et al., *Immuno Biology: the immune system in health and disease*, (Elsevier Science Ltd., NY) (4th ed., 1999)). The term also includes the neonatal receptor, FcRn, which is responsible for the transfer of maternal IgGs to the fetus (Guyer et al., *J. Immunol.* 117:587 (1976); and Kim et al., *J. Immunol.* 24:249 (1994)). The Fc fragments described herein selectively bind FcRn. In certain aspects, the Fc fragments selectively bind a mammalian FcRn, including cyno, rat and/or mouse FcRn.

[00136] Activating receptor FcγRIIA contains an immunoreceptor tyrosine-based activation motif (ITAM) in its cytoplasmic domain. Inhibiting receptor FcγRIIB contains an immunoreceptor tyrosine-based inhibition motif (ITIM) in its cytoplasmic domain (reviewed in Daëron, *Annu. Rev. Immunol.* 15:203-234 (1997)). FcRs are reviewed in Ravetch and Kinet, *Annu. Rev. Immunol.* 9:457-92 (1991); Capel et al., *Immunomethods* 4:25-34 (1994); and de Haas et al., *J. Lab. Clin. Med.* 126:330-41 (1995). Other FcRs, including those to be identified in the future, are encompassed by the term “FcR” herein.

[00137] Modifications in the CH2 domain can affect the binding of FcRs to the Fc. A number of amino acid modifications in the Fc region are known in the art for selectively altering the affinity of the Fc for different Fc gamma receptors.

[00138] Exemplary mutations that alter the binding of FcRs to the Fc are listed below:

[00139] S298A/E333A/K334A, S298A/E333A/K334A/K326A (Lu Y, Vernes JM, Chiang N, et al. J Immunol Methods. 2011 Feb 28;365(1-2):132-41);

[00140] F243L/R292P/Y300L/V305I/P396L, F243L/R292P/Y300L/L235V/P396L (Stavenhagen JB, Gorlatov S, Tuailon N, et al. Cancer Res. 2007 Sep 15;67(18):8882-90; Nordstrom JL, Gorlatov S, Zhang W, et al. Breast Cancer Res. 2011 Nov 30;13(6):R123);

[00141] F243L (Stewart R, Thom G, Levens M, et al. Protein Eng Des Sel. 2011 Sep;24(9):671-8.), S298A/E333A/K334A (Shields RL, Namenuk AK, Hong K, et al. J Biol Chem. 2001 Mar 2;276(9):6591-604);

[00142] S239D/I332E/A330L, S239D/I332E (Lazar GA, Dang W, Karki S, et al. Proc Natl Acad Sci U S A. 2006 Mar 14;103(11):4005-10);

[00143] S239D/S267E, S267E/L328F (Chu SY, Vostiar I, Karki S, et al. Mol Immunol. 2008 Sep;45(15):3926-33);

[00144] S239D/D265S/S298A/I332E, S239E/S298A/K326A/A327H, G237F/S298A/A330L/I332E, S239D/I332E/S298A, S239D/K326E/A330L/I332E/S298A, G236A/S239D/D270L/I332E, S239E/S267E/H268D, L234F/S267E/N325L, G237F/V266L/S267D and other mutations listed in WO2011/120134 and WO2011/120135, herein incorporated by reference. *Therapeutic Antibody Engineering* (by William R. Strohl and Lila M. Strohl, Woodhead Publishing series in Biomedicine No 11, ISBN 1 907568 37 9, Oct 2012) lists mutations on page 283.

[00145] In some embodiments, the Fc fragment comprises one or more modifications selected from the group consisting of: S298A, E333A, K334A, K326A, F243L, R292P, Y300L, V305I, P396L, F243L, R292P, Y300L, L235V, P396L, F243L, S239D, I332E, A330L, S267E, L328F, D265S, S239E, K326A, A327H, G237F, K326E, G236A, D270L, H268D, S324T, L234F, N325L, V266L, and S267D. In some embodiments, the one or more modifications is selected from the group consisting of S228P, M252Y, S254T, T256E, T256D, T250Q, H285D, T307A, T307Q, T307R, T307W, L309D, Q411H, Q311V, A378V, E380A, M428L, N434A, N434S, N297A, D265A, L234A, L235A, and N434W.

[00146] In some embodiments, the Fc fragment comprises a specific combination of amino acid substitutions selected from the group consisting of: L234A/L235A; V234A/G237A;

L235A/G237A/E318A; S228P/L236E; H268Q/V309L/A330S/A331S;
C220S/C226S/C229S/P238S; C226S/C229S/E3233P/L235V/L235A; L234F/L235E/P331S;
C226S/P230S; L234A/G237A; L234A/L235A/G237A; Q311R/M428L; and
L234A/L235A/P329G.

[00147] In some embodiments, the Fc fragment comprises additional amino acid residues at the N-terminus or the C-terminus. In some embodiments, the Fc fragments provided for herein comprises a C-terminal lysine residue. In some embodiments, the Fc fragment has an additional 1, 2, 3, 4 or 5 amino acid residues at the N-terminus and/or the C-terminus.

[00148] In some embodiments, the Fc fragments described herein comprise at least one galactose residue in the oligosaccharide attached to the Fc. Such antibody variants may have improved CDC function.

[00149] In some embodiments, the Fc fragments described herein comprise one or more alterations that improve or diminish C1q binding and/or CDC.

[00150] In some embodiments, the Fc fragments comprise one or more amino acid substitutions, wherein the one or more substitutions result in a decrease in one or more of ADCC activity, ADCP activity, or CDC activity compared with the Fc without the one or more substitutions.

[00151] In some embodiments, the Fc fragments are produced by recombinant cells engineered to express the desired constant domains.

[00152] In some embodiments, the Fc fragments disclosed herein are variants of (e.g., comprise one or more amino acid substitutions as compared to) SEQ ID NO: 56, wherein the one or more substitutions result in a measurable K_D at pH 7.4 compared to an Fc fragment of SEQ ID NO: 56, which does not detectably bind FcRn at pH 7.4 without the one or more substitutions.

[00153] In certain embodiments, the one or more amino acid substitutions results in increased Fc fragment half-life at pH 6.0 compared to an Fc fragment comprising a wild-type Fc region.

[00154] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to

SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 1.

[00155] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 2.

[00156] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to

SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 3.

[00157] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 4.

[00158] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 5. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 5.

[00159] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at

least 99% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 6.

[00160] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 7.

[00161] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 90% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 8.

[00162] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 9. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 9.

[00163] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 98% identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 57.

[00164] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 58.

[00165] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 59.

[00166] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an

amino acid sequence identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 60.

[00167] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 61.

[00168] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an

amino acid sequence at least 95% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 62. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 62.

[00169] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 63.

[00170] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at

least 98% identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 64.

[00171] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 65.

[00172] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 66.

[00173] In some embodiments, the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an

amino acid sequence identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 80% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 85% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 90% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 95% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 96% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 97% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 98% identical to SEQ ID NO: 67. In some embodiments, the Fc fragment comprises an amino acid sequence at least 99% identical to SEQ ID NO: 67.

[00174] In some embodiments, the Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9 or 57-67.

[00175] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 1. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 2. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 3. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 4. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 5.

[00176] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 6. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 7. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 8. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 9.

[00177] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 57. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 58. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 59. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 60. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 61. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 62.

[00178] In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 63. In some embodiments, the Fc fragment comprises an amino acid sequence

identical to SEQ ID NO: 64. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 65. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 66. In some embodiments, the Fc fragment comprises an amino acid sequence identical to SEQ ID NO: 67.

Linkers

[00179] Linker sequences can be provided in the Fc fusion molecules described herein to separate the different components (e.g., albumin or albumin binding domain, Fc fragment).

[00180] In some embodiments, the linker is a peptide linker. In some embodiments, the peptide linker comprises a hinge region or a portion thereof. In some embodiments, the hinge region is derived from an IgG hinge region. In some embodiments, the hinge region is derived from a human IgG hinge region.

[00181] In some embodiments, the peptide linker comprises a flexible peptide linker. In some embodiments, the peptide linker comprises a rigid peptide linker. In some embodiments, the peptide linker comprises a cleavable peptide linker. In some embodiments the linker is repeated once. In some embodiments the linker is repeated more than once.

[00182] In some embodiments, the linker comprises at least 5 to about 50 amino acids. In some embodiments, the linker comprises about 5 to about 50 amino acids, about 5 to about 45 amino acids, about 5 to about 40 amino acids, about 5 to about 35 amino acids, about 5 to about 30 amino acids, about 5 to about 25 amino acids, about 5 to about 20 amino acids, about 5 to about 15 amino acids, about 5 to about 10 amino acids, about 10 to about 50 amino acids, about 15 to about 50 amino acids, about 20 to about 50 amino acids, about 25 to about 50 amino acids, about 30 to about 50 amino acids, about 35 to about 50 amino acids, about 40 to about 50 amino acids, or about 45 to about 50 amino acids.

[00183] In some embodiments, the linker comprises a sequence according to any one of SEQ ID NOs: 13-15. In some embodiments, the linker comprises a sequence according to any one of SEQ ID NOs: 13-15 or 74-75. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 13. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 14. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 15.

[00184] In some embodiments, the linker comprises a sequence according to any one of SEQ ID NOs: 74-75. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 74. In some embodiments, the linker comprises a sequence according to SEQ ID NO: 75.

[00185] In some embodiments, the linker comprises a sequence selected from the group consisting of $(GS)_n$, $(G2S)_n$, $(G3S)_n$, $(G4S)_n$, and $(G)_n$, and wherein n is an integer from 2 to 20. In some embodiments, n is an integer from 2 to 18, from 2 to 16, from 2 to 14, from 2 to 12, from 2 to 10, from 2 to 8, from 2 to 6, from 2 to 4, from 4 to 20, from 6 to 20, from 6 to 8, from 8 to 20, from 10 to 20, from 12 to 20, from 14 to 20, from 16 to 20, or from 18 to 20. In some embodiments, n is an integer greater than or equal to 6. In some embodiments, n is an integer greater than or equal to 8. In some embodiments, n is 6. In some embodiments, n is 8.

[00186] In some embodiments, the linker comprises $(G4S)_n$, wherein n is an integer from 2 to 20. In some embodiments, n is an integer from 2 to 18, from 2 to 16, from 2 to 14, from 2 to 12, from 2 to 10, from 2 to 8, from 2 to 6, from 2 to 4, from 4 to 20, from 6 to 20, from 6 to 8, from 8 to 20, from 10 to 20, from 12 to 20, from 14 to 20, from 16 to 20, or from 18 to 20. In some embodiments, n is an integer greater than or equal to 6. In some embodiments, n is an integer greater than or equal to 8. In some embodiments, n is 6. In some embodiments, n is 8.

[00187] In some embodiments, the linker comprises $(G4S)_1$. In some embodiments, the linker comprises $(G4S)_2$. In some embodiments, the linker comprises $(G4S)_3$. In some embodiments, the linker comprises $(G4S)_4$. In some embodiments, the linker comprises $(G4S)_5$. In some embodiments, the linker comprises $(G4S)_6$. In some embodiments, the linker comprises $(G4S)_7$. In some embodiments, the linker comprises $(G4S)_8$.

[00188] In some embodiments, the linker comprises a sequence of GGGGG. In some embodiments, the linker comprises a sequence consisting of $(GGGGG)_n$, and wherein n is an integer from 2 to 6.

[00189] In some embodiments, the linker comprises a sequence selected from GGS GGD or GGS GGE. In some embodiments, the linker comprises a sequence selected from the group consisting of $(GGS GGD)_n$ or $(GGS GGE)_n$, and wherein n is an integer from 2 to 6.

[00190] In some embodiments, the linker comprises a sequence selected from the group consisting of GGGSGSGGGGS and GGGGGPGGGGP. In some embodiments, the linker comprises a sequence selected from the group consisting of $(GGGSGSGGGGS)_n$ and $(GGGGPGGGGP)_n$, and wherein n is an integer from 1 to 3.

[00191] In some embodiments, the linker comprises a sequence selected from the group consisting of GGGGGG and GGGGGGGG.

[00192] In some embodiments, the linker comprises a sequence selected from the group consisting of $(GX)_n$, $(GGX)_n$, $(GGGX)_n$, $(GGGGX)_n$, and $(GzX)_n$, wherein z is between 1 and 20, and wherein n is at least 8. In some embodiments, z is between 2 and 18, 2 and 16, 2 and

14, 2 and 12, 2 and 10, 2 and 8, 2 and 6, 2 and 4, 4 and 20, 6 and 20, 8 and 20, 10 and 20, 12 and 20, 14 and 20, 16 and 20, or 18 and 20. In some embodiments, X is serine, aspartic acid, glutamic acid, threonine, or proline.

[00193] In some embodiments, the linker comprises an amino acid sequence selected from **Table 1B**.

Table 1B. Amino acid sequences of exemplary linkers.

Identifier	Amino Acid sequence
G ₄ S (SEQ ID NO: 13)	GGGGS
(G ₄ S) ₇ (SEQ ID NO: 14)	GGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGS
(G ₄ S) ₃ (SEQ ID NO: 15)	GGGGSGGGGSGGGGS
(G ₄ S) ₆ (SEQ ID NO: 74)	GGGGSGGGGSGGGGSGGGGSGGGGSGGGGS
(G ₄ S) ₈ (SEQ ID NO: 75)	GGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSGGGGS

Half-life extension domain

[00194] In some embodiments, the Fc fusion molecule comprises an Fc fragment and a half-life extension domain. In some embodiments, the Fc fusion molecule comprises an Fc fragment, a linker, and a half-life extension domain.

[00195] In some embodiments, the half-life extension domain comprises an albumin. In some embodiments, the half-life extension moiety comprises human serum albumin. In some embodiments, the half-life extension domain comprises a protein or fragment thereof that binds to an albumin. In some embodiments, the half-life extension domain comprises a protein or fragment thereof that binds to human serum albumin (HSA).

[00196] In some embodiments, the half-life extension domain comprises an anti-HSA antibody or fragment thereof. In some embodiments, the half-life extension domain comprises an anti-HSA Fab. In some embodiments, the half-life extension domain comprises an anti-HSA Fab'. In some embodiments, the half-life extension domain comprises an anti-HSA F(ab)'2. In some embodiments, the half-life extension domain comprises an anti-HSA variable fragment (Fv). In some embodiments, the half-life extension domain comprises an anti-HSA single-domain antibody (sdAb). In some embodiments, the half-life extension domain comprises an anti-HSA VHH. In some embodiments, the half-life extension domain comprises an anti-HSA VNAR. In some embodiments, the half-life extension domain comprises an anti-HSA single

chain variable fragment (scFv). In some embodiments, the half-life extension domain comprises an anti-HSA single chain Fab (scFab).

[00197] In some embodiments, the half-life extension domain comprises one or more lipids. Lipids can comprise various lengths, chemistries, linkers, and conjugates that are apparent to a person of ordinary skill in the art. In some embodiments, the half-life extension domain comprises a saturated fatty acid. In some embodiments, the saturated fatty acid is linked to the Fc fragment through its carboxylate group. In some embodiments, the saturated fatty acid comprises a C₆₋₁₈ saturated fatty acid (e.g., a C₆, C₁₂, C₁₆, or C₁₈ saturated fatty acid). In some embodiments, the half-life extension domain comprises a saturated fatty diacid. In some embodiments, the saturated fatty diacid is linked to the Fc fragment through its carboxylate group. In some embodiments, the saturated fatty diacid comprises a C₆₋₁₈ saturated fatty diacid (e.g., a C₆, C₁₂, C₁₆, or C₁₈ saturated fatty diacid).

[00198] In some embodiments, the half-life extension domain comprises one or more polyethylene glycols (PEGs). PEGs can comprise various lengths, various molecular weights, and various linkers that are apparent to a person of ordinary skill in the art. In some embodiments, the PEG is monodisperse. In some embodiments, the monodisperse PEG has 12-48 ethylene glycol repeats (e.g., 12-24 repeats, 12-36 repeats, 24-48 repeats, 24-36 repeats, or 36-48 repeats). In some embodiments, the PEG is polydisperse. In some embodiments, the polydisperse PEG has a molecular weight of 500 to 50,000 daltons (e.g., 500-1,000 Da, 500-5,000 Da, 500-20,000 Da, 500-40,000 Da, 1,000-5,000 Da, 1,000-20,000 Da, 1,000-40,000 Da, 1,000-50,000 Da, 5,000-10,000 Da, 5,000-20,000 Da, 5,000-40,000 Da, 5,000-50,000 Da, 10,000-20,000 Da, 10,000-40,000 Da, 10,000-50,000 Da, 20,000-40,000 Da, or 20,000-50,000 Da). In some embodiments, the polydisperse PEG has a molecular weight of 0.5 kDa, 1 kDa, 5 kDa, 10 kDa, 15 kDa, 20 kDa, 25 kDa, 30 kDa, 35 kDa, 40 kDa, 45 kDa, or 50 kDa.

[00199] In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 1 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 5 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 10 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 15 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 20 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 25 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular

weight of 30 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 35 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 40 kDa. In some embodiments, the half-life extension domain comprises a polydisperse PEG with a molecular weight of 50 kDa.

[00200] In some embodiments, the half-life extension domain comprises a half-life extending polypeptide. Half-life extending polypeptides can comprise various lengths, chemistries, linkers, and conjugates that are apparent to a person of ordinary skill in the art. In some embodiment, the half-life extending polypeptide comprises repeated units of Pro-Ala-Ser (PAS). In some embodiments, the half-life extending polypeptide comprises 50-500 repeated PAS units (*e.g.*, 50-100 PAS units, 50-200 PAS units, 100-200 PAS units, 100-500 PAS units, or 200-500 PAS units).

[00201] In some embodiments, the half-life extending polypeptide comprises an XTENT[™] polypeptide. XTEN is described in US20150037359A1, the contents of which are incorporated by reference herein in its entirety.

Antigen Binding Domains

[00202] In some embodiments, the Fc fusion molecule comprises an Fc fragment and an antigen binding domain. In some embodiments, the Fc fusion molecule comprises an Fc fragment, a linker, and an antigen binding domain.

[00203] In some embodiments, the antigen binding domain comprises a Fab, a Fab', a F(ab)'₂, a variable fragment (Fv), a single-domain antibody (sdAb), a VHH, a VNAR, a single chain variable fragment (scFv), or a single chain Fab (scFab). In some embodiments, the antigen binding domain comprises a Fab. In some embodiments, the antigen binding domain comprises a Fab'. In some embodiments, the antigen binding domain comprises a F(ab)'₂. In some embodiments, the antigen binding domain comprises a Fv. In some embodiments, the antigen binding domain comprises a light chain variable domain. In some embodiments, the antigen binding domain comprises a heavy chain variable domain. In some embodiments, the antigen binding domain comprises a sdAb. In some embodiments, the antigen binding domain comprises a VHH. In some embodiments, the antigen binding domain comprises a VNAR. In some embodiments, the antigen binding domain comprises a scFv. In some embodiments, the antigen binding domain comprises a scFab.

[00204] In some embodiments, the antigen binding domain is monospecific. In some embodiments, the antigen binding domain is bispecific. In some embodiments, the antigen binding domain is multi-specific.

[00205] In some embodiments, the antigen binding domain targets a non-human antigen. In some embodiments, a non-human antigen is a protein or fragment that is not normally expressed by humans but may be found in humans. In some embodiments, a non-human antigen comprises a protein or fragment thereof expressed by pathogens. In some embodiments, the non-human antigen is a bacterial antigen. In some embodiments, a non-human antigen is a viral antigen.

[00206] In some embodiments, the antigen binding domain targets a human antigen. In some embodiments, the human antigen is associated with an autoimmune disease. In some embodiments, the human antigen is IgG. In some embodiments, the human antigen is IgE. In some embodiments, the human antigen is IgM. In some embodiments, the human antigen is IgA. In some embodiments, the human antigen is IgD.

[00207] In some embodiments, the human antigen is human serum albumin.

Albumin and Albumin Binding Domains

[00208] Provided herein are Fc fusion molecules comprising an albumin or albumin binding domain.

[00209] In some embodiments, the Fc fusion molecule comprises an Fc fragment and an albumin. In some embodiments, the albumin is human serum albumin. In some embodiments, the albumin comprises an amino acid sequence at least 80% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 85% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 90% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 95% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 96% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 97% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 98% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence at least 99% identical to SEQ ID NO: 10. In some embodiments, the albumin comprises an amino acid sequence identical to SEQ ID NO: 10.

[00210] In some embodiments, the Fc fusion molecule comprises an Fc fragment and an albumin binding domain. In some embodiments, the albumin binding domain binds to human serum albumin. In some embodiments, the albumin binding domain comprises an albumin binding domain described in WO2012175400A1, the contents of which are incorporated herein by reference in its entirety.

[00211] In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 85% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 90% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 95% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 96% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 97% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 98% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 99% identical to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence identical to SEQ ID NO: 11.

[00212] In some embodiments, the albumin binding domain comprises an amino acid substitution of F32A relative to SEQ ID NO: 11. In some embodiments, the albumin binding domain comprises an amino acid sequence of SEQ ID NO: 76.

[00213] In some embodiments, the albumin binding domain comprises an amino acid sequence at least 80% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 85% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 90% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 95% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 96% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 97% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 98% identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence at least 99% identical to SEQ ID NO: 12.

identical to SEQ ID NO: 12. In some embodiments, the albumin binding domain comprises an amino acid sequence identical to SEQ ID NO: 12.

[00214] In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 10-12. In some embodiments, the albumin or albumin binding domain comprises a sequence according to any one of SEQ ID NOs: 10-12.

[00215] Exemplary amino acid sequences of albumin or albumin binding domains are shown in **Table 1C**.

Table 1C. Exemplary albumin or albumin binding domains.

Identifier	Description	Amino Acid sequence
HSA (SEQ ID NO: 10)	Human Serum Albumin	DAHKSEVAHREFKDLGEENFKALVLI AFAQYLQQCPFEDHVKLVNEVTE FAKTCVADESAENCDSLHTLFGDKLCTVATLRETYGEMADCCAKQEP ERNECFLQHKDDNP NLPRLVRPEVDMCTAFHDNEETFLKKYLYEIAR RHPYFYAPELLFFAKRYKAAFT ECCQAADKAACLLPKLDEL RDEGKAS SAKQRLKCASLQKFGERA FKAWAVARLSQRFPKAEFAEVSKLVTDLT K VHTECCHGDLLECADD RADLAKYICENQDSISSKLKECCEKPLLEKSH CIAEVENDEMPADLP SLAADFVESKDVCKNYAEAKDVFLGMFLYEYAR RHPDYSVVL LRLAKTYETTLEKCCAADPHECYAKVFDEFKPLVEEP QNLIKQNC ELFQ LGEYKFQNAL LVRYTKKVPQVSTPTLVEVSRNLGK VGSKCKKHPEAKRMPCAEDYLSVVLNQLCVLHEKTPVSDRVT KCCTES LVNRRPCFSALEVDETYVPKEFNAETFTFHADICTLSEKERQIKKQTA LVELVKHKPKATKEQLKAVMDDFAAFVEKCKADDKETCFAEEGKKLV AASQAALGL

ABD1 (SEQ ID NO: 11)	Albumin binding VHH domain	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPEWV SSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVTVSS
ABD2 (SEQ ID NO: 12)	Albumin binding VHH domain	EVQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLEWV SSISGSGSDTLYADSVKGRFTISRDN AKTTLYLQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVTVSS
ABD1 (F32A) (SEQ ID NO: 76)	ABD1 with F32A mutation	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSAGMSWVRQAPGKGPEWV SSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVTVSS

Fc Fusion Molecule Format

[00216] In some embodiments, the Fc fusion molecules described herein comprise an Fc fragment and a second domain. In some embodiments, the Fc fusion molecules comprise an Fc fragment, a linker, and a second domain. In some embodiments, the Fc fusion molecules comprise a format described in **FIG. 1**.

[00217] In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, an Fc fragment, a linker, and an antigen binding domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from N-terminus to C-terminus, a second Fc fragment, a second linker, and a second antigen binding domain. In some embodiments, the first antigen binding domain and the second antigen binding domain are identical.

[00218] In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, an Fc fragment, a linker, and a half-life extension domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from N-terminus to C-terminus, a second Fc fragment, a second linker, and a second half-life extension domain. In some embodiments, the first half-life extension domain and the second half-life extension domain are identical.

[00219] In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, an Fc fragment, a linker, and an albumin. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from N-terminus to C-terminus, a

second Fc fragment, a second linker, and a second albumin. In some embodiments, the first albumin and the second albumin are identical.

[00220] In some embodiments, the Fc fusion molecule comprises, from N-terminus to C-terminus, an Fc fragment, a linker, and an albumin binding domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from N-terminus to C-terminus, a second Fc fragment, a second linker, and a second albumin binding domain. In some embodiments, the first albumin binding domain and the second albumin binding domain are identical.

[00221] In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, an Fc fragment, a linker, and an antigen binding domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from C-terminus to N-terminus, a second Fc fragment, a second linker, and a second antigen binding domain. In some embodiments, the first antigen binding domain and the second antigen binding domain are identical.

[00222] In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, an Fc fragment, a linker, and a half-life extension domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from C-terminus to N-terminus, a second Fc fragment, a second linker, and a second half-life extension domain. In some embodiments, the first half-life extension domain and the second half-life extension domain are identical.

[00223] In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, an Fc fragment, a linker, and an albumin. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from C-terminus to N-terminus, a second Fc fragment, a second linker, and a second albumin. In some embodiments, the first albumin and the second albumin are identical.

[00224] In some embodiments, the Fc fusion molecule comprises, from C-terminus to N-terminus, an Fc fragment, a linker, and an albumin binding domain. In some embodiments, the Fc fusion molecule forms a homodimer. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fragment. In some embodiments, the Fc fusion molecule forms a heterodimer with a second Fc fusion molecule comprising, from C-terminus to N-terminus, a second Fc fragment, a second linker, and a second albumin binding domain. In some embodiments, the first albumin binding domain and the second albumin binding domain are identical. In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises a half-life extension domain to the N-terminus of an Fc fragment.

[00225] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an anti-HSA VHH fused to the N-terminus of an Fc fragment.

[00226] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an albumin binding domain fused to the N-terminus of an Fc fragment.

[00227] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an albumin fused to the N-terminus of an Fc fragment.

[00228] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises a half-life extension domain fused to the C-terminus of an Fc fragment.

[00229] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an anti-HSA VHH fused to the C-terminus of an Fc fragment.

[00230] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an albumin binding domain fused to the C-terminus of an Fc fragment.

[00231] In one aspect, the present invention provides, among other things, a bivalent Fc fusion molecule comprising two polypeptides, wherein each polypeptide comprises an albumin fused to the C-terminus of an Fc fragment.

[00232] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises a half-

life extension domain fused to the N-terminus of a first Fc region, and the second polypeptide comprises a second Fc fragment.

[00233] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the N-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00234] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an albumin binding domain fused to the N-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00235] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an albumin fused to the N-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00236] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises a half-life extension domain fused to the C-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00237] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the C-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00238] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an albumin binding domain fused to the C-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00239] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an albumin fused to the C-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment.

[00240] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the C-terminus of a first Fc fragment, and the second polypeptide

comprises a second Fc fragment, wherein the first Fc fragment and the second Fc fragment comprise M252Y, S254T, T256E, H433K, and N434Y compared to an amino acid sequence set forth in SEQ ID NO: 56.

[00241] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the N-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment, wherein the first Fc fragment and the second Fc fragment comprise M252Y, S254T, T256E, H433K, and N434Y compared to an amino acid sequence set forth in SEQ ID NO: 56.

[00242] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the C-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment, wherein the first Fc fragment and the second Fc fragment comprise M252Y, S254T, T256E, M428L, H433K, and N434F compared to an amino acid sequence set forth in SEQ ID NO: 56.

[00243] In one aspect, the present invention provides, among other things, a monovalent Fc fusion molecule comprising two polypeptides, wherein the first polypeptide comprises an anti-HSA VHH fused to the N-terminus of a first Fc fragment, and the second polypeptide comprises a second Fc fragment, wherein the first Fc fragment and the second Fc fragment comprise M252Y, S254T, T256E, M428L, H433K, and N434F compared to an amino acid sequence set forth in SEQ ID NO: 56.

[00244] In some embodiments, the first Fc fragment and the second Fc fragment are identical. In some embodiments the first Fc fragment and the second Fc fragment are further modified to promote heterodimerization.

[00245] In some embodiments, the first Fc fragment and the second Fc fragment further comprise one or more amino acid substitutions selected from Y349C, S354C, T366S, T366W, T366Y, L368A, Y407T, Y407V. In some embodiments, the first Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid substitutions S354C and T366W. In some embodiments, the second Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitutions S354C and T366W. In some embodiments, the first Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid

substitution T266W. In some embodiments, the second Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitution T266W.

[00246] Provided herein are Fc fusion molecules. Amino acid sequences of exemplary Fc fusion molecules and their components (e.g., albumin or albumin binding domain, Fc fragments, linkers) are provided in **Table 1D**.

Table 1D. Fc Fusion Molecules

Name	Description	Full Sequence	Secondary Chain (Knob into Hole)	N-terminal Sequence	Linker	C-terminal Sequence
Fc Fusion Molecule 1 (SEQ ID NO: 16)	Efgart-G4S- HSA	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTPP VLDSGGSFFLYSKLTV DKSRWQQGNVFCFSVM HEALKFHYTQKSLSL PGGGGSDAHKSEVAH RFKDLGEENFKALVLI AFAQYLQCCPFEDHVK LVNEVTEFAKTCVADE SAENCDKSLHTLFGDK LCTVATLRETYGEMAD CCAKQEPERNECFLOH KDDNPNLRLVLRPEVD VMCTAFHDNEETFLKK YLYEIAARRHPYFYAPE LLFFAKRYKAAFTTECC QAADKAACLLPKLDEL RDEGKASSAKQRLKCA SLQKFGGERAFKAWAVA RLSQRFPKAEFAEVSK LVTDLTKVHTECCHGD LLECADDRADLAKYIC ENQDSISSKLEKCEK PILLEKSHCIAEVENDE MPADLPSLAADFVESK DVCKNYAEAKDVFLGM FLYEYARRHPDYSVVL LLRLAKTYETTLKCC AAADPHECYAKVDEF KPLVEEPQNLKQNC LFEQLGEYKFQNALLV RYTKKVPQVSTPTLVE VSRNLGKVGSKCKHP EAKRMPCAEDYLSVVL NQLCVLHEKTPVSDRV TKCTESLVNRRPCFS ALEVDETYVPKEFNAE TFTFHADICTLSEKER QIKKQTALVELVKHKP KATKEQLKAVMDDFAA FVEKCKCKADDETCFA EEGKKLVAASQAALGL	N/A	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTPPVLDL DGSFFLYSKL TVDKSRWQQG NVFSCFSVMHE ALKFHYTQKS LSLSPG (SEQ ID NO: 1)	GGGGS (SEQ ID NO: 13)	DAHKSEVAHRF KDLGEENFKAL VLIAFAQYLQ CFPEDHVKLNV EVTEFAKTCVA DESAENCDKSL HTLFGDKLCTV ATLRETYGEMA DCCAKQEPERN ECFLQHKDDNP NLPRLVLRPEVD VMCTAFHDNEE TFLKKYLYEIA RRHPYFYAPEL LFFAKRYKAAF TECCQAADKAA CLLPKLDELRLD EGKASSAKQRL KCSLQKFGGER AFKAWAVARLS QRFPKAEFAEV SKLVTDLTKVH TECCHGDLLEC ADDRADLAKYI CENQDSISSKL KECCEKPLEK SHCIAEVENDE MPADLPSLAAD FVESKDVCCKNY AEAKDVFLGMF LYEYARRHPDY SVVLLRLAKT YETTLKCCAA ADPHECYAKVF DEFKPLVEEPQ NLIKQNCLEFE QLGEYKFQNAL LVRYTKKVPQV STPTLVEVSRN LGKVGSKCKH PEAKRMPCAED YLSVVLNQLCV LHEKTPVSDRV TKCTESLVNR RPCFSALEVDE TYVPKEFNAET FTFHADICTLS EKERQIKKQTA LVELVKHKPKA TKEQLKAVMDD FAAFVEKCKKA DDKETCFEEG KKLVAASQAAL GL (SEQ ID NO: 10)
Fc Fusion Molecule 2 (SEQ ID NO: 17)	HSA-G4S- Efgart	DAHKSEVAHRFKDLGE ENFKALVLIAFAQYLQ QCPFEDHVKLNEVTE FAKTCVADESAENCDK SLHTLFGDKLCTVATL RETYGEMADCCAKQEP ERNECFLOHKDDNPNL PRLVLRPEVDMCTAFH	N/A	DAHKSEVAHR FKDLGEENFK ALVLIAFAQY LQCCPFEDHV KLVNEVTEFA KTCVADESAE NCDKSLHTLF GDKLCTVATL	GGGGS (SEQ ID NO: 13)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVSVLTV

		DNEETFLKKYLYEIA RHPYFYAPELLFFAKR YKAAFTECCQAADKAA CLLPKLDELRLDEGKAS SAKQRLKCASLQKFGE RAFKAWAVARLSQRF KAFFAEVSKLVTDLT VHTECCHGDLLECADD RADLAKYICENQDSIS SKLKECCEKPLEKSH CIAEVENDEMPADLPS LAADFVESKDVCKNYA EAKDVFGLGMFLYEYAR RHPDYSVVLRLRAKT YETTLEKCCAAADPHE CYAKVFDEFKPLVEEP QNLIKQNCLEFQQLGE YKFQNALLVRYTKKVP QVSTPTLVEVSRNLGK VGSCKCKHPEAKRMP AEDYLSVVLNQLCVLH EKTPVSDRVTKCTES LVNRRPCFSALEVDET YVPKEFNAETFTFHAD ICTLSEKERQIKKQTA LVELVKHKPKATKEQL KAVMDDFAAFVEKCK ADDKETCFAEEGKKLV AASQAALGLGGGSDK THTCPPCPAPELLGGP SVFLFPPKPKDTLYIT REPEVTCVVVDVSHED PEVKFNWYVDGVEVHN AKTKPREEQYNSTYRV VSVLTVLHQDWLNGKE YKCKVSNKALPAPIEK TISKAKGQPREPQVYT LPPSRDELTKNQVSLT CLVKGFYPSDIAVEWE SNGQPENNYKTTPPV L DSDGSFFLYSKLTVDK SRWQQGNVFCFSVMHE ALKFHYTQKSLSLSPG		RETYGEMADC CAKQEPERNE CFLQHKDDNP NLPRLVRPEV DVMCTAFHDN EETFLKKYLY EIARRHPYFY APELLFFAKR YKAAFTECCQ AADKAACLLP KLDELRLDEGK ASSAKQRLKC ASLQKFGERA FKAWAVARLS QRFPAEF VSKLVTDLT VHTECCHGDL LECADDRADL AKYICENQDS ISSKLEKCE KPLEKSHCI AEVENDEMP DLPSLAADFV ESKDVCKNYA EAKDVFGLGMF LYEYARRHPD YSVVLRLRLA KTYETLEK CAAADPHECY AKVFDEFKPL VEEPQNLIKQ NCELFQQLGE YKFQNALLV YTKKVPQVST PTLVEVSRNL GKVGSKCKH PEAKRMPCAE DYLSSVVLNQL CVLHEKTPVS DRVTKCTES LVNRRPCFSA LEVDETYVPK EFNAETFTFH ADICTLSEKE RQIKKQTALV ELVKHKPKAT KEQLKAVMDD FAAFVEKCK ADDKETCFAE EGKKLVAASQ AALGL (SEQ ID NO: 10)		LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFY SDIAVEWESNG QPENNYKTTP VLSDGSFFLY SKLTVDKSRWQ QGNVFCFSVMH EALKFHYTQKS LSLSPG (SEQ ID NO: 1)
Fc Fusion Molecule 3 (SEQ ID NO: 18)	Efgart- (G4S)7-HSA	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQV SLTCLVKGFYPSDIAVE WESNGQPENNYKTTP VLSDGSFFLYSKLTV DKSRWQQGNVFCFSVM HEALKFHYTQKSLSLS	N/A	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK	GGGS GGGS GGGS GGGS GGGS GGGS GGGS (SEQ ID NO: 14)	DAHKSEVAH KDLGEENFK VLIAFAQYLQ CPFEDHVKL EVTEFAKTC DESAENCDS HTLFGDKLCT ATLRETYGEM DCCAKQEPER ECFLQHKDDN NLPRLVRPEV VMCTAFHDNE TFLKKYLYEIA RRHPYFYAPEL

		PGGGGSGGGGSGGGG SGGGGSGGGGSGGGG GGGGSDAHKSEVAHRF KDLGEENFKALVLIAF AQYLQQCPFEDHVKLV NEVTEFAKTCVADESA ENCCKSLHTLFGDKLC TVATLRETYGEMADCC AKQEPERNECFLQHKD DNPNLPRLVPEVDVM CTAFHDNEETFLKKYL YEIARRHPYFYAPELL FFAKRYKAAFTGCCQA ADKAACLLPKLDELRLD EGKASSAKQRLKCASL QKFGERAFAKAWAVARL SQRFPAEFAEVSKLV TDLTKVHTECCHGDL ECADDRADLAKYICEN QDSISSKLECECKPL LEKSHCIAEVENDEMP ADLPSLAADFVESKDV CKNYAEAKDVFLGMFL YEYARRHPDYSVLL RLAKTYETTLEKCCAA ADPHECYAKVFDEFKP LVEEPQNLIKQNCLEF EQLGEYKFNALLVRY TKKVPQVSTPTLVEVS RNLGKVGSKCKHPEA KRMPCAEDYLSVVLNQ LCVLHEKTPVSDRVTK CCTESLVNRRPCFSAL EVDETYVPKEFNAETF TFHADICTLSEKERQI KKQTALVELVKHKPKA TKEQLKAVMDDFAAFV EKCKADDKETCFABE GKKLVAASQAALGL		NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLD DGSFFLYSKL TVDKSRWQQG NVFSCSVMH ALKFHYTQKS LSLSPG (SEQ ID NO: 1)		LFFAKRYKAAF TECCQAADKAA CLLPKLDELRLD EGKASSAKQRL KCASLQKFGER AFKAWAVARLS QRFPAEFAEV SKLVTDLTQVH TECCHGDLLEC ADDRADLAKYI CENQDSISSKL KECECKPLEK SHCIAEVENDE MPADLPSLAAD FVESKDVCKNY AEAKDVFLGMF LYEYARRHPDY SVVLLRLAKT YETTLEKCCAA ADPHECYAKVF DEFKPLVEEPQ NLIKQNCLEF QLGEYKFNALL LVRYTKKVPQV STPTLVEVSRN LGVGSKCKH PEAKRMPCAED YLSVVLNQLCV LHEKTPVSDRV TKCTESLVNR RPCFSALEVDE TYVPKEFNAET FTHADICTLS EKERQIKQTA LVELVKHKPKA TKEQLKAVMDD FAAFVEKCKA DDKETCFABEG KKLVAASQAAL GL (SEQ ID NO: 10)
Fc Fusion Molecule 4 (SEQ ID NO: 19)	HSA- (G4S)- Efgart	DAHKSEVAHRFKDLGE ENFKALVLIAFAQYLQ QCPFEDHVKLVNEVTE FAKTCVADESAENCCK SLHTLFGDKLCTVATL RETYGEMADCCAKQEP ERNECFLQHKDDNP PRLVRPEVDVMCTAFH DNEETFLKKYLYE IARRHPYFYAPELLFFAKR YKAAFTGCCQAADKAA CLLPKLDELRLDEGKAS SAKQRLKCASLQKFGE RAKAWAVARLSQRF PAEFAEVSKLVTDLT KVHTECCHGDLLECADD RADLAKYICENQDSIS SKLECECKPLEKSH CIAEVENDEMPADLPS LAADFVESKDVCKNYA EAKDVFLGMFLYEYAR RHPDYSVLLRLAKT YETTLEKCCAAADPHE CYAKVFDEFKPLVEEP QNLIKQNCLEFQELGE YKFNALLVRYTKKVP	N/A	DAHKSEVAHR FKDLGEENFK ALVLIAFAQY LQQCPFEDHV KLVNEVTEFA KTCVADESAE NCCKSLHTLF GDKLCTVATL RETYGEMADC CAKQEPERNE CFLQHKDDNP NLPRLVPEV DVMCTAFHDN EETFLKKYLY EIARRHPYFY APELLFFAKR YKAAFTGCCQ AADKAACLLP KLDELRLDEGK ASSAKQRLKC ASLQKFGERA FKAWAVARLS QRFPAEFAE VSKLVTDLT KVHTECCHGDL LECADDRADL	GGGGS GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 14)	DKHTCPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFY SDIAVEWESNG QPENNYKTPP VLDSGDSFFLY SKLTVDKSRWQ QGNVFCVSMH EALKFHYTQKS LSLSPG (SEQ ID NO: 1)

		QVSTPTLVEVSRNLGK VGSKCKKHPEAKRMP AEDYLSVVLNQLCVLH EKTFFVSDRVTKCTES LVNRRPCFSALEVDET YVPKEFNAETFTFHAD ICTLSEKERQIKKQTA LVVLVKKHKPKATKEQL KAVMDDFAAFVEKCKK ADDKETCFAEEGKKLV AASQAALGLGGGSGG GGSGGGSGGGSGGG GGSGGGSGGGSGDKTH TCPPCPAPELLGGPSV FLFPPKPKDITLYITRE PEVTCVVVDVSHEDPE VKFNWYVDGVEVHNAK TKPREEQYNSTYRVVS VLTVLHQDWLNGKEYK CKVSNKALPAPIEKTI SKAKGQPREPQVYITLP PSRDELTKNQVSLTCL VKGFYPSDIAVEWESN GQPENNYKTTTPVLDS DGSFFLYSKLTVDKSR WQQGNVFSCSVMHEAL KFHYTQKSLSLSPG		AKYICENQDS ISSKLKECCE KPLLEKSHCI AEVENDEMPA DLPSLAADFV ESKDVCKNYA EAKDVFLGMF LYEYARRHPD YSVVLRLRLA KTYETTLEKC CAAADPHECY AKVFDEFKPL VEEPQNLIKQ NCELFEQLGE YKFQNALLV YTKKVPQVST PTLVEVSRNL GKVGSKCKKH PEAKRMPCAE DYLSVVLNQL CVLHEKTPVS DRVTKCTES LVNRRPCFSA LEVDETVPK EFNAETFTFH ADICTLSEKE RQIKKQTALV ELVKKHKPKAT KEQLKAVMDD FAAFVEKCKK ADDKETCFAE EGKKLVAASQ AALGL (SEQ ID NO: 10)		
Fc Fusion Molecule 5 (SEQ ID NO: 20)	ABD1-G4S- Efgart	EVQLLESGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGTLT VSSGGGSGDKTHTCPP CPAPELLGGPSVFLFP PKPKDITLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYCKVSN KALPAPIEKTIKAK GQPREPQVYITLPPSRD ELTKNQVSLTCLVKGF YPSDIAVEWESNGQPE NNYKTTTPVLDSGDSF FLYSLTVDKSRWQQG NVFSCSVMHEALKFHY TQKSLSLSPG	N/A	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKGPWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT VTSS (SEQ ID NO: 11)	GGGS (SEQ ID NO: 13)	DKTHTCPPCPA PELLGGPSVFL FPKPKDITLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY CKVSNKALPA PIEKTISKAKG QPREPQVYITLP PSRDELTKNQV SLTCLVKGFY PSDIAVEWESN GQPENNYKTTTP VLDSGDSFFLY SKLTVDKSRWQ QGNVFSCSVMH EALKFHYTQKS LSLSPG (SEQ ID NO: 1)
Fc Fusion Molecule 6 (SEQ ID NO: 21)	Efgart-G4S- ABD1	DKTHTCPPCPAPELLG GPSVFLFPKPKDITLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYCKVSNKALPAPI EKTISKAKGQPREPQV YITLPPSRDELTKNQV SLTCLVKGFYPSDIAVE WESNGQPENNYKTTTP	N/A	DKTHTCPPCP APELLGGPSV FLFPKPKDIT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA	GGGS (SEQ ID NO: 13)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT

		VLDSDGSFFLYSKLTV DKSRWQQGNVFSCSVM HEALKFHYTQKSLSL PGGGGGSEVQLLESGG GLVQPGGSLRLSCAAS GFTFRSFGMSWVRQAP GKGPEWVSSISGSGSD TLYADSVKGRFTISR NSKNTLYLQMNLSRPE DTAVYYCTIGGSLRS SQGTLVTVSS		PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALKFHYTQKS LSLSPG (SEQ ID NO: 1)		VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 7 (SEQ ID NO: 22)	ABD1- (G4S)3- Efgart	EVQLLESGGGLVQPGG SLRLSCAASGFTFRS FGMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNLSRPEDTAVYYC TIGGSLRSSQGT LVTVSSGGGGSGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDG EVHNAKTKPREEQYNS TYRVVSVLTVLHQDWL NGKEYKCKVSNKALP APIEKTISKAKGQPREP QVYTLPPSRDELTKNQ VSLTCLVKGFYPSDIA VEWESNGQPENNYKTT TPVLDSDGSFFLYSKL TVDKSRWQQGNVFSCS VMHEALKFHYTQKSL LSLSPG	N/A	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNLSRPE DTAVYYCTIGG SLRSSQGT LVTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA APIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFY PSDIAVEWESN GQPENNYKTT PPVLDSDGSFF LYSKLTVDKSR WQQGNVFSCS VMHEALKFHYT QKSLLSLSPG (SEQ ID NO: 1)
Fc Fusion Molecule 8 (SEQ ID NO: 23)	Efgart- (G4S)3- ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQV SLTCLVKGFYPSDIAVE WESNGQPENNYKTT PPVLDSDGSFFLYSKL TVDKSRWQQGNVFSCS VMHEALKFHYTQKSL LSLSPG	N/A	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA APIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALKFHYTQKS LSLSPG (SEQ ID NO: 1)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDNKNT LYLQMNLSRPE DTAVYYCTIGG SLRSSQGT LVTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 9 (SEQ ID NO: 24)	ABD1-G4S- Efgart(KIH)	EVQLLESGGGLVQPGG SLRLSCAASGFTFRS FGMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS	GGGGS (SEQ ID NO: 13)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF

		LQMNSLRPEDTAVYYC TIGGSLRSSQGT LVT VSSGGGSGDKTHTCPP CPAPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYKCKVS NKALPAPIEKTISKAK GQPREPQVCTLPSPSRD ELTKNQVSLSCAVKGF YPSDIAVEWESNGQPE NNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQG NVFSCSVMEALKFHY TQKSLSLSPG	PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVME ALKFHYTQKSLSL PG (SEQ ID NO: 5)	ISGSGSDTLY ADSVKGRFTI SRDNSKNTLY LQMNSLRPED TAVYYCTIGG SLRSSQGT L VTVSS (SEQ ID NO: 11)		NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTTP VLDSDGSFFLV SKLTVDKSRWQ QGNVFSCSVMH EALKFHYTQKS LSLSPG (SEQ ID NO: 4)
Fc Fusion Molecule 10 (SEQ ID NO: 25)	Efgart(KIH)- G4S-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPSPSRDELTKNQV LSCAVKGFYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFSCSV MEALKFHYTQKSLSL PGGGGGSEVQLLESGG GLVQPGGSLRLSCAAS GFTFRSFGMSWVRQAP GKGPEWVSSISGSGSD TLYADSVKGRFTISR D NSKNTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGT LVTVSS	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVME ALKFHYTQKSLSL PG (SEQ ID NO: 5)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPSPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTTPVLDSD GSFFLVSKL TVDKSRWQQG NVFSCSVME ALKFHYTQKS LSLSPG (SEQ ID NO: 4)	GGGGS (SEQ ID NO: 13)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLRSRSQGT L VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 11 (SEQ ID NO: 26)	ABD1- (G4S)3- Efgart(KIH)	EVQLLESGGGLVQPGG SLRLSCAASGFTFRS FGMSWVRQAPGKGPEW VSSISGSGSDTLYADSV KGRFTISRDN SKNTLY LQMNSLRPEDTAVYYC TIGGSLRSSQGT LVT VSSGGGSGGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDG VEVHNAKTKPREEQYN STYRVVSVLTVLHQDWL NGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVCTLPSPSRDELTKNQ VSLSCAVKGFYPSDIA VEWESNGQPENNYKTT PPVLDSDGSFFLVSKL TVDKSRWQQGNVFSCS VMHEALKFHYTQKSL LSPG	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVME ALKFHYTQKSLSL PG (SEQ ID NO: 5)	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKGPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNSKNTLY LQMNSLRPED TAVYYCTIGG SLRSRSQGT L VTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTTP VLDSDGSFFLV SKLTVDKSRWQ QGNVFSCSVMH EALKFHYTQKS LSLSPG (SEQ ID NO: 4)

Fc Fusion Molecule 12 (SEQ ID NO: 27)	Efgart(KIH)-(G4S)3-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVHLQDNLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPSSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTPP VLDSDGSFFLVSKLT DKSRWQQGNVFCSSVM HEALKFHYTQKSLSL PGGGGGSGGGSGGGG SEVQLLESGLVQPG GSLRLSCAASGFTFRS FGMSWVRQAPGKPEW VSSISGSGSDTLYADS VKGRFTISRDNKNTL YLQMNSLRPEDTAVYY CTIGGSLSRSSQGT TVSS	DKTHTCPPCPAPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVVS VLTVLHQLDNLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFCSSVMHE ALKFHYTQKSLSL PG (SEQ ID NO: 5)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDNLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPPVLD DGSFFLVSKL TVDKSRWQQG NVFSCSSVMHE ALKFHYTQKS LSLSPG (SEQ ID NO: 4)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT VTSS (SEQ ID NO: 11)
Fc Fusion Molecule 13 (SEQ ID NO: 28)	HSA-G4S-Fe197	DAHKSEVAHRFKDLGE ENFKALVLIIFAQYQLQ QCPFFEDHVKLNVETE FAKTCVADESAENCDK SLHTLFGDKLCTVATL RETYGEMADCCAKQEP ERNECFLOHKDDNP PRLVRPEVDVMTAFH DNEETFLKKYLYE IAR RHPYFYAPELLFFAKR YKAAFTTECCQAADKAA CLLPKLDLRLDEGKAS SAKQRLKCA SLQKFGE RAFKAWAVARLSQRFP KAEFAEVSKLVDLTK VHTECCHGDLLE CADD RADLAKYICENQDS IS SKLKECCEKPLLEKSH CIAEVENDEMPADLPS LAADFVESKDVCKNYA EAKDVFLGMFLYBYAR RHPDYSVVLRLAKT YETTLEKCCAAADPHE CYAKVFDEFKPLVEEP QNLIKQNCLEFEQLGE YKFQNALLVRYTKKVP QVSTPTLVEVS RNLGK VGSCKCKHPEAKRMP C AEDYLSVVLNQLCVLH EKT PVSDRVTKCCTES LVNRRPCFSALEVDET YVPKEFNAETFTFHAD ICTLSEKERQIKQTA LVELVKHKPKATKEQL KAVMDDFAAFVEKCK ADDKETCF AAEEGKKLV AASQAALGLGGGSDK THTCPPCPAPELLGGP SVFLFPPKPKDTLYIT REPEVTCVVVDVSHED PEVKFNWYVDGVEVHN AKTKPREEQYNSTYRV	N/A	DAHKSEVAHR FKDLGEENFK ALVLIIFAQY LQQCPFFEDHV KLNVETEFA KTCVADESAE NCDKSLHTLF GDKLCTVATL RETYGEMADC CAKQEPERNE CFLQHKDDNP NLPRVLPEV DVMCTAFHDN EETFLKKYLY EIARRHPYFY APELLFFAKR YKAAFTTECCQ AADKAACLLP KLDELRLDEGK ASSAKQRLKC ASLQKFGERA FKAWAVARLS QRFPKAEFAE VSKLVTDLTK VHTECCHGDL LECADDRADL AKYICENQDS ISSKLEKCE KPLLEKSHCI AEVENDEMPA DLPSLAADFV ESKDVCKNYA EAKDVFLGMF LYEYARRHPD YSVVLLRLA KTYETTLEK CAAADPHECY AKVFDEFKPL VEEPQNLIKQ NCLEFEQLGE YKFQNALLV YTKKVPQVST	GGGGS (SEQ ID NO: 13)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLT V LHQDNLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL P PSRDELTKNQV SLTCLVKGFYP SDIAVEWESNG QPENNYKTTPP VLDSDGSFFLY SKLTVDKSRWQ QGNVFCSSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 3)

		VSVLTVLHQDWLNGKE YKCKVSNKALPAPIEK TISKAKGQPREPQVYT LPPSRDELTKNQVSLT CLVKGFYPSDIAVEWE SNGQPENNYKTPPVVL DSDGSFFLYSKLTVDK SRWQQGNVFSCSVMHE ALKYHYTQKSLSLSPG		PTLVEVSRNL GKVGSKCKKH PEAKRMPCAE DYLSVVLNQL CVLHEKTPVS DRVTKCCTES LVNRRPCFSA LEVDETYVPK EFNAETFTFH ADICTLSEKE RQIKKQTALV ELVKHKPKAT KEQLKAVMDD FAAFVEKCK ADDKETCFAE EGKKLVAASQ AALGL (SEQ ID NO: 10)		
Fc Fusion Molecule 14 (SEQ ID NO: 29)	Fc197-G4S- HSA	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTPP VLDSGDSFFLYSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSLS PGGGGGS DAHKSEVAF RFDLGEENFKALVLI AFAQYLQQCPFEDHVK LVNEVTEFAKTCVADE SAENCDKSLHTLFGDK LCTVATLRETYGEMAD CCAKQEPERNECFLQH KDDNPNLPRLVRPEVD VMCTAFHDNEETFLKK YLYEIARRHPYFYAPE LLFFAKRYKAAFTTECC QAADKAACLPLKLDL RDEGKASSAKQRLKCA SLQKFGERAFKAWAVA RLSQRFPKAEFAEVSK LVTDLTKVHTECCHGD LLECADRADLAKYIC ENQDSISSKLKECCEK PILLEKSHCIAEVENDE MPADLPSLAADFVESK DVCKNYAEAKDVFLGM FLYEYARRHPDYSVVL LLRLAKTYETTLEKCC AAADPHECYAKVFDEF KPLVEEPQNLIKQNC LFEQLGEYKFNALLV RYTKKVPQVSTPTLVE VSRNLGKVGSKCKHP EAKRMPCAEDYLSVVL NQLCVLHEKTPVSDRV TKCTESLVNRRPCFS ALEVDETYVPKEFNAE TFTFHADICTLSEKER QIKKQTALVELVKHKP KATKEQLKAVMDDFAA	N/A	DKTHTCPPCP APELGGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTPPVVLD DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 3)	GGGS (SEQ ID NO: 13)	DAHKSEVAHRF KDLGEENFKAL VLIAFAQYLQQ CPFEDHVKLVN EVTEFAKTCVA DESAENCDKSL HTLFGDKLCTV ATLRETYGEMA DCCAKQEPERN ECFLQHKDDNP NLPRLVRPEVD VMCTAFHDNEE TFLKKYLYEIA RRHPYFYAPEL LFFAKRYKAAF TECCQAADKAA CLLPKLDELRLD EGKASSAKQRL KCASLQKFGER AFKAWAVARLS QRFPAEFAEV SKLVTDLTKVH TECCHGDLLEC ADDRADLAKYI CENQDSISSKL KECCEKPLEK SHCIAEVENDE MPADLPSLAAD FVESKDVCKNY AEAKDVFLGMF LYEYARRHPDY SVVLLRLAKT YETTLEKCCAA ADPHECYAKVF DEFKPLVEEPQ NLIKQNCLEFE QLGEYKFQNAL LVRYTKKVPQV STPTLVEVSRN LGKVGSKCKKH PEAKRMPCAED YLSVVLNQLCV LHEKTPVSDRV TKCTESLVNR RPCFSALEVDE TYVPKEFNAET FTFHADICTLS EKERQIKKQTA LVELVKHKPKA

		FVEKCKKADDKETCFA EEGKKLVAASQAALGL				TKEQLKAVMDD FAAFVEKCKKA DDKETCFAEEG KKLVAASQAAL GL (SEQ ID NO: 10)
Fc Fusion Molecule 15 (SEQ ID NO: 30)	Fc197-G4S- ABD2	DKHTCPCPPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTTPP VLDSDGSFFLYSKLTV DKSRWQQGNVFCFSVM HEALKYHYTQKSLSL PGGGGSEVQLVESGG GLVQPGNSLRSLCAAS GFTFSFGMSWVRQAP GKGLEWVSSISGSGSD TLYADSVKGRFTISR NAKTTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGTLVTVSS	N/A	DKHTCPCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCFSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 3)	GGGGS (SEQ ID NO: 13)	EVQLVESGGGL VQPGNSLRSLC AASGFTFSFG MSWVRQAPGKG LEWVSSISGSG SDTLYADSVKG RFTISRDNACT TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTL VTVSS (SEQ ID NO: 12)
Fc Fusion Molecule 16 (SEQ ID NO: 31)	Fc197-G4S- ABD1	DKHTCPCPPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTTPP VLDSDGSFFLYSKLTV DKSRWQQGNVFCFSVM HEALKYHYTQKSLSL PGGGGSEVQLLES GLVQPGSLRLCAAS GFTFRSFGMSWVRQAP GKGPFWVSSISGSGSD TLYADSVKGRFTISR NSKNTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGTLVTVSS	N/A	DKHTCPCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCFSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 3)	GGGGS (SEQ ID NO: 13)	EVQLLES VQPGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTL VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 17 (SEQ ID NO: 32)	Fc197- 3G4S-ABD2	DKHTCPCPPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTTPP	N/A	DKHTCPCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA	GGGGS GGGGS (SEQ ID NO: 15)	EVQLVESGGGL VQPGNSLRSLC AASGFTFSFG MSWVRQAPGKG LEWVSSISGSG SDTLYADSVKG RFTISRDNACT TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTL

		VLDSDGSFFLYSKLTV DKSRWQQGNVFSOSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SEVQLVESGGGLVQPG NSLRLSCAASGFTFSS FGMSWVRQAPGKLEW VSSISGSGSDTLYADS VKGRFTISRDNAKTTL YLQMNSLRPEDTAVYY CTIGGSLSRSSQGTIV TVSS		PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTPPVLDSD DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 3)		VTVSS (SEQ ID NO: 12)
Fc Fusion Molecule 18 (SEQ ID NO: 33)	Fc197- 3G4S-ABD1	DKHTCPCPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTPP VLDSDGSFFLYSKLTV DKSRWQQGNVFSOSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SEVQLLES GGGLVQPG GSLRLSCAASGFTFRS FGMSWVRQAPGKPEW VSSISGSGSDTLYADS VKGRFTISRDNKNTL YLQMNSLRPEDTAVYY CTIGGSLSRSSQGTIV TVSS	N/A	DKHTCPCPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTPPVLDSD DGSFFLYSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 3)	GGGS GGGS GGGS (SEQ ID NO: 15)	EVQLLES GGGL VQPGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTIV TVSS (SEQ ID NO: 11)
Fc Fusion Molecule 19 (SEQ ID NO: 34)	Fc197(KIH)- G4S-ABD2	DKHTCPCPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTPP VLDSDGSFFLVSKLTV DKSRWQQGNVFSOSVM HEALKYHYTQKSLSL PGGGGGSEVQLVESGG GLVQPGNSLRLSCAAS GFTFSSFGMSWVRQAP GKGLEWVSSISGSGSD TLYADSVKGRFTISR NAKTTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGTIVTVSS	DKHTCPCPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSOSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKHTCPCPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTPPVLDSD DGSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)	GGGS (SEQ ID NO: 13)	EVQLVES GGGL VQPGNSLRLSC AASGFTFRSFG MSWVRQAPGKG LEWSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTIV TVSS (SEQ ID NO: 12)
Fc Fusion Molecule 20	Fc197(KIH)- G4S-ABD1	DKHTCPCPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH	DKHTCPCPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV	DKHTCPCPCP APELLGGPSV FLFPPKPKDT	GGGS (SEQ ID	EVQLLES GGGL VQPGSLRLSC AASGFTFRSFG

(SEQ ID NO: 35)		EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTP VLDSGGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSL PGGGGGSEVQLLES GLVQPGGSLRLS CAASGFTFRSFGMSWVRQAP GKGP EWVSSISGSGSD TLYADSVKGRFTISR D NSKNTLYLQMN SLRPE DTAVYYCTIGGSL SRS SQGT LTVSS	VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVV SVLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFY PSDIAVEWESNGQPE NNYKTTPVLDS DG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPVLDS DGSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)	NO: 13)	MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKNTLYLQMN SLRPE DTAVYYCTIG GSLSRSSQGT LTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 21 (SEQ ID NO: 36)	Fc197(KIH)-3G4S-ABD2	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTP VLDSGGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SEVQLVESGGGLVQPG NSLRSLCAASGFTFS FGMSWVRQAPGKGLEW VSSISGSGSDTLYAD SVKGRFTISRDN AKTTLYLQMN SLRPE DTAVYYCTIGGSL SRSSQGT LTVSS	DKTHTCPPCPAPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVV SVLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFY PSDIAVEWESNGQPE NNYKTTPVLDS DG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPVLDS DGSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLVESGGGL VQPGNSLRSLSC AASGFTFS SFGMSWVRQAPGKG LEWVSSISGSG SDTLYADSVKG RFTISRDN AKTTLYLQMN SLRPE DTAVYYCTIG GSLSRSSQGT LTVSS (SEQ ID NO: 12)
Fc Fusion Molecule 22 (SEQ ID NO: 37)	Fc197(KIH)-3G4S-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTP VLDSGGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SEVQLLES GGGLVQPG GSLRLS CAASGFTFRS FGMSWVRQAPGK PEWVSSISGSGSD TLYADSVKGRFTISR DN SKNTLYLQMN SLRPE DTAVYYCTIGGSL SRSSQGT LTVSS	DKTHTCPPCPAPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVV SVLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFY PSDIAVEWESNGQPE NNYKTTPVLDS DG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPVLDS DGSFFLVSKL TVDKSRWQQG	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRS SFGMSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKNTLYLQMN SLRPE DTAVYYCTIG GSLSRSSQGT LTVSS (SEQ ID NO: 11)

		YLQMNSLRPEDTAVYY CTIGGSLSRSSQGT TVSS		NVFSCSV MHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)		
Fc Fusion Molecule 23 (SEQ ID NO: 38)	ABD2-G4S- Fc197	EVQLVESGGGLVQPGN SLRLSCAASGFTFSS F GMSWVRQAPGKGLEWV SSISGSGSDTLYADSV KGRFTISRDNKTTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVT VSSGGGSDKTHTCPP CPAPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLT V LHQLDNLNGKEYKCKVS NKALPAPIEKTISKAK GQPREPQVYTLPPSRD ELTKNQVSLTCLVKGF YPSDIAVEWESNGQPE NNYKTTTPVLDSDGSF FLYSLKLTVDKSRWQQG NVFSCSV MHEALKYHY TQKSLSLSPG	N/A	EVQLVESGGG LVQPGNSLRL SCAASGFTFS SFGMSWVRQA PGKGLEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKTTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT LVT VSS (SEQ ID NO: 12)	GGGS (SEQ ID NO: 13)	DKTHCPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLT V LHQLDNLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL P PSRDELTKNQV SLTCLVKGFY P SDIAVEWESNG QPENNYKTTP P VLDSDGSFFLY SKLTVDKSRWQ QGNVFC SV MH EALKYHYTQKS LSLSPG (SEQ ID NO: 3)
Fc Fusion Molecule 24 (SEQ ID NO: 39)	ABD1-G4S- Fc197	EVQLLESGGGLVQPGG SLRLSCAASGFTFRS F GMSWVRQAPGKGP EWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVT VSSGGGSDKTHTCPP CPAPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLT V LHQLDNLNGKEYKCKVS NKALPAPIEKTISKAK GQPREPQVYTLPPSRD ELTKNQVSLTCLVKGF YPSDIAVEWESNGQPE NNYKTTTPVLDSDGSF FLYSLKLTVDKSRWQQG NVFSCSV MHEALKYHY TQKSLSLSPG	N/A	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKGP EWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT LVT VSS (SEQ ID NO: 11)	GGGS (SEQ ID NO: 13)	DKTHCPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLT V LHQLDNLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL P PSRDELTKNQV SLTCLVKGFY P SDIAVEWESNG QPENNYKTTP P VLDSDGSFFLY SKLTVDKSRWQ QGNVFC SV MH EALKYHYTQKS LSLSPG (SEQ ID NO: 3)
Fc Fusion Molecule 25 (SEQ ID NO: 40)	ABD2- 3G4S-Fc197	EVQLVESGGGLVQPGN SLRLSCAASGFTFSS F GMSWVRQAPGKGLEWV SSISGSGSDTLYADSV KGRFTISRDNKTTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVT VSSGGGSGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDG VEVHNAKTKPREEQYNS TYRVVSVLT V LHQLDNLNGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVYTLPPSRDELTKNQ VSLTCLVKGFYPSDIA	N/A	EVQLVESGGG LVQPGNSLRL SCAASGFTFS SFGMSWVRQA PGKGLEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKTTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT LVT VSS (SEQ ID NO: 12)	GGGS GGGS GGGS (SEQ ID NO: 15)	DKTHCPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLT V LHQLDNLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL P PSRDELTKNQV SLTCLVKGFY P SDIAVEWESNG QPENNYKTTP P VLDSDGSFFLY SKLTVDKSRWQ

		VEWESNGQPENNYKTT PPVLDSDGSEFFLYSKL TVDKSRWQQGNVFSCS VMHEALKYHYTQKSLS LSLSPG				QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 3)
Fe Fusion Molecule 26 (SEQ ID NO: 41)	ABD1- 3G4S-Fe197	EVQLLESGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGTLLVT VSSGGGGSGGGSGGG GSDKHTCTPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDGV EVHNAKTKPREEQYNS TYRVVSVLTVLHQDWL NGKEYCKVSNKALPA PIEKTISKAKGQPREP QVYTLPPSRDELTKNQ VSLTCLVKGFYPSDIA VEWESNGQPENNYKTT PPVLDSDGSEFFLYSKL TVDKSRWQQGNVFSCS VMHEALKYHYTQKSLS LSLSPG	N/A	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTLL VTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCTPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTLT PSRDELTKNQV SLTCLVKGFY SDIAVEWESNG QPENNYKTTTP VLDSDGSEFFLY SKLTVDKSRWQ QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 3)
Fe Fusion Molecule 27 (SEQ ID NO: 42)	ABD2-G4S- Fe197(KIH)	EVQLVESGGGLVQPGN SLRLSCAASGFTFSSF GMSWVRQAPGKLEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGTLLVT VSSGGGGSDKHTCTPP CPAPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYCKV SNKALPAPIEKTISKAK GQPREPQVCTLPSPRD ELTKNQVSLSCAVKGF YPSDIAVEWESNGQPE NNYKTTTPVLDSGSE FLVSKLTVDKSRWQQG NVFSCSVMHEALKYHY TQKSLSLSPG	DKTHTCTPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFY SDIAVEWESNGQPE NNYKTTTPVLDSG SEFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSLS PG (SEQ ID NO: 7)	EVQLVESGGG LVQPGNSLRL SCAASGFTFS SFGMSWVRQA PGKLEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTLL VTVSS (SEQ ID NO: 12)	GGGGS (SEQ ID NO: 13)	DKTHTCTPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFY SDIAVEWESNG QPENNYKTTTP VLDSDGSEFFLV SKLTVDKSRWQ QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 6)
Fe Fusion Molecule 28 (SEQ ID NO: 43)	ABD1-G4S- Fe197(KIH)	EVQLLESGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGTLLVT VSSGGGGSDKHTCTPP CPAPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYCKV SNKALPAPIEKTISKAK GQPREPQVCTLPSPRD ELTKNQVSLSCAVKGF	DKTHTCTPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFY SDIAVEWESNGQPE NNYKTTTPVLDSG SEFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSLS	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTLL VTVSS (SEQ ID NO: 11)	GGGGS (SEQ ID NO: 13)	DKTHTCTPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFY SDIAVEWESNG QPENNYKTTTP VLDSDGSEFFLV

		YPSDIAVEWESNGQPE NNYKTTTPVLDSGSGF FLVSKLTVDKSRWQQG NVFSCSVMHEALKYHY TQKSLSLSPG	PG (SEQ ID NO: 7)			SKLTVDKSRWQ QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 6)
Fc Fusion Molecule 29 (SEQ ID NO: 44)	ABD2- 3G4S- Fc197(KIH)	EVQLVESGGGLVQPGN SLRLSCAASGFTFSF GMSWVRQAPGKLEWV SSISGSGSDTLYADSV KGRFTISRDNKTTLY LQMNSLRPEDTAVYYC TIGGSLRSRSGGTLVT VSSGGGSGGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDGV EVHNAKTKPREEQYNS TYRVVSVLTVLHQDWL NGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVCTLPPSRDELTKNQ VSLSCAVKGFYPSDIA VEWESNGQPENNYKTT PPVLDSGSGFFLVSKL TVDKSRWQQGNVFSCS VMHEALKYHYTQKSLS LSPG	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLS PG (SEQ ID NO: 7)	EVQLVESGGG LVQPGNSLRL SCAASGFTFS SFGMSWVRQA PGKLEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKTTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTL VTVSS (SEQ ID NO: 12)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTTP VLDSGSGFFLV SKLTVDKSRWQ QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 6)
Fc Fusion Molecule 30 (SEQ ID NO: 45)	ABD1- 3G4S- Fc197(KIH)	EVQLLESGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLRSRSGGTLVT VSSGGGSGGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDGV EVHNAKTKPREEQYNS TYRVVSVLTVLHQDWL NGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVCTLPPSRDELTKNQ VSLSCAVKGFYPSDIA VEWESNGQPENNYKTT PPVLDSGSGFFLVSKL TVDKSRWQQGNVFSCS VMHEALKYHYTQKSLS LSPG	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLS PG (SEQ ID NO: 7)	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTL VTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTTP VLDSGSGFFLV SKLTVDKSRWQ QGNVFSCSVMH EALKYHYTQKS LSLSPG (SEQ ID NO: 6)
Fc Fusion Molecule 31 (SEQ ID NO: 46)	HSA-G4S- Fc195	DAHKSEVAHRFKDLGE ENFKALVLIAFAQYLQ QCPFEDHVKLNVNTE FAKTCVADESAENCDC SLHTLFGDKLCTVATL RETYGEMADCCAKQEP ERNECFLQHKDDNPDL PRLVRPEVDMCTAFH DNEETFLKKYLYEIA RHPYFYAPELLFFAKR YKAAFTCECCQAADKAA CLLPKLDELRLDEGKAS SAKQRLKASLQKFGE RAFKAWAVARLSQRFP KAEFKAEVSKLVTDLTK VHTECCHGDLLECADD	N/A	DAHKSEVAHR FKDLGEENFK ALVLIAFAQY LQQCFEDHV KLNVNTEFA KTCVADESAE NCDKSLHTLF GDKLCTVATL RETYGEMADC CAKQEPERNE CFLQHKDDNP NLPRLVRPEV DVMCTAFHDN EETFLKKYLY EIARRHPYFY APELLFFAKR	GGGGS (SEQ ID NO: 13)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFYP SDIAVEWESNG QPENNYKTTTP

		RADLAKYICENQDSIS SKLKECCEKPLLEKSH CIAEVENDEMPADLPS LAADFVESKDVCKNYA EAKDVFLGMFLYEYAR RHPDYSVLLRLAKT YETTLEKCCAAADPHE CYAKVFDEFKPLVEEP QNLIKQNCLELFEQLGE YKFQNALLVRYTKKVP QVSTPTLVEVSRNLGK VGSKCKHPEAKRMPC AEDYLSVVLNQLCVLH EKTPVSDRVTKCCTES LVNRRPCFSALEVDET YVPKEFNAETFTFHAD ICTLSEKERQIKKQTA LVELVKHKPKATKEQL KAVMDDFAAFVEKCK ADDKETCFAEEGKKLV AASQAALGLGGGSDK THTCPPCPAPELLGGP SVFLFPPKPKDTLYIT REPEVTCVVVDVSHED PEVKFNWYVDGVEVHN AKTKPREEQYNSTYRV VSVLTVLHQDWLNGKE YKCKVSNKALPAPIEK TISKAKGQPREPQVYT LPPSRDELTKNQVSLT CLVKGFYPSDIAVEWE SNGQPENNYKTTPPVL DSDGSFFLYSKLTVDK SRWQQGNVFSCSVLHE ALKFHYTQKSLSLSPG		YKAAFTECCQ AADKAACLLP KLDELRDGEGK ASSAKQRLKC ASLQKFGERA FKAWAVARLS QRFPAEFAE VSKLVTDLTK VHTECCHGDL LECADDRADL AKYICENQDS ISSKLKECCE KPLLEKSHCI AEVENDEMPA DLPSLAADFV ESKDVCKNYA EAKDVFLGMF LYEYARRHPD YSVLLLRILA KTYETTLEKC CAAADPHECY AKVFDEFKPL VEEPQNLIKQ NCELFQELGE YKFQNALLV YTKKVPQVST PTLVEVSRNL GKVGSKCKKH PEAKRMPCAE DYLSVVLNQL CVLHEKTPVS DRVTCKCTES LVNRRPCFSA LEVDETYVPK EFNAETFTFH ADICTLSEKE RQIKKQTALV ELVKHKPKAT KEQLKAVMDD FAAFVEKCK ADDKETCFAE EGKKLVAASQ AALGL (SEQ ID NO: 10)		VLSDGSFFLY SKLTVDKSRWQ QGNVFSCSVLH EALKFHYTQKS LSLSPG (SEQ ID NO: 2)
Fc Fusion Molecule 32 (SEQ ID NO: 47)	Fc195-G4S- HSA	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCCLKGFYPSDIAVE WESNGQPENNYKTTPP VLSDGSFFLYSKLTV DKSRWQQGNVFSCSVL HEALKFHYTQKSLSLS PGGGGSDAHKSEVAH RFKDLGEENFKALVLI AFAQYLQCCPFEDHVK LVNEVTEFAKTCVADE SAENCDSLHTLFGDK LCTVATLRETYGEMAD CCAQKEPERNECFLOH KDDNPNLRLVRPEVD VMCTAFHDNEETFLKK	N/A	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTPPVLD DGSFFLYSKL TVDKSRWQQG NVFSCSVLHE ALKFHYTQKS LSLSPG	GGGS (SEQ ID NO: 13)	DAHKSEVAHRF KDLGEENFKAL VLIAFAQYLQQ CPFEDHVKLVN EVTEFAKTCVA DESAENCDSLS HTLFGDKLCTV ATLRETYGEMA DCCAQKEPERN ECFLQHKDDNP NLRLVRPEVD VMCTAFHDNEE TFLKKYLYEIA RRHPYFYAPEL LFFAKRYKAAF TECCQAADKAA CLLPKLDELRLD EGKASSAKQRL KCASLQKFGER AFKAWAVARLS QRFPAEFAEV SKLVTDLTKVH TECCHGDLLEC

		YLYEIARRHPYFYAPE LLFFAKRYKAAFTCEC QAADKAACLLPKLDEL RDEGKASSAKQRLKCA SLQKFGERAFKAWAVA RLSQRFPKAEFAEVSK LVTDLTKVHTECCHGD LLECADDRADLAKYIC ENQDSISSKLKECCEK PILLEKSHCIAEVENDE MPADLPSLAADFVESK DVCKNYAEAKDVFLGM FLYEYARRHPDYSVVL LLRLAKTYETTLEKCC AADPHECYAKVFDEF KPLVEEPQNLKQNC LFEQLGEYKFQNALLV RYTKKVPQVSTPTLVE VSRNLGKVGSKCKHP EAKRMPCAEDYLSVVL NQLCVLHEKTPVSDRV TKCCTESLVNRRPCFS ALEVDETYVPKEFNAE TFTFHADICTLSEKER QIKKQ TALVELVKHKP KATKEQLKAVMDDFAA FVEKCKKADDKETCFA EEGKKLVAASQAALGL		(SEQ ID NO: 2)		ADDRADLAKYI CENQDSISSKL KECCEKPLEK SHCIAEVENDE MPADLPSLAAD FVESKDVCKNY AEAKDVFLGMF LYEYARRHPDY SVVLLRLAKT YETTLEKCCAA ADPHECYAKVF DEFKPLVEEPQ NLIKQNCLEF QLGEYKFQNAL LVRYTKKVPQV STPTLVEVSRN LGKVGSKCKH PEAKRMPCAED YLSVVLNQLCV LHEKTPVSDRV TKCCTESLVN RPCFSALEVDE TYVPKEFNAET FTFHADICTLS EKERQIKKQTA LVVLVKKHKPA TKEQLKAVMDD FAAFVEKCKCA DDKETCFAEEG KKLVAASQAAL GL (SEQ ID NO: 10)
Fc Fusion Molecule 33 (SEQ ID NO: 48)	Fc195(KIH)- G4S-ABD1	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTPP VLDSGSGFFLVSKLTV DKSRWQQGNVFSCSVL HEALKFHYTQKSLSLS PGGGGGSEVQLLESGG GLVQPGGSLRLSCAAS GFTFRSFGMSWVRQAP GKGPEWVSSISGSGSD TLYADSVKGRFTISR NSKNTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGLTVTVSS	DKHTCPCPCAPPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVLHE ALKFHYTQKSLSLS PG (SEQ ID NO: 9)	DKHTCPCPCP APPELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPPVLD SGSFFLVSKL TVDKSRWQQG NVFSCSVLHE ALKFHYTQKS LSLSPG (SEQ ID NO: 8)	GGGS (SEQ ID NO: 13)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT LTVTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 34 (SEQ ID NO: 49)	Fc195(KIH)- 3G4S-ABD1	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE	DKHTCPCPCAPPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK	DKHTCPCPCP APPELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK	GGGS GGGS GGGS (SEQ ID NO: 15)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT

		WESNGQPENNYKTTPP VLDSGSGFFLVSKLTV DKSRWQQGNVFSVCSVL HEALKFHYTQKSLSL PGGGGSGGGGSGGGG SEVQLLESGGGGLVQPG GSLRLSCAASGFTFRS FGMSWVRQAPGKPEW VSSISGSGSDTLYADS VKGRFTISRDNKNTLY YLQMNSLRPEDTAVYY CTIGGSLSRSSQGT TVSS	NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSVCSVLHE ALKFHYTQKSLSL PG (SEQ ID NO: 9)	CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPPVLD DGSFFLVSKL TVDKSRWQQG NVFSCSVLHE ALKFHYTQKS LSLSPG (SEQ ID NO: 8)		VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 35 (SEQ ID NO: 50)	ABD1-G4S- Fc195	EVQLLESGGGGLVQPGG SLRLSCAASGFTFRS GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT VSSGGGSDKTHTCP CPAPPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYKCKV NKALPAPIEKTISKAK GQPREPQVYTLPPSRD ELTKNQVSLTCLVKGF YPSDIAVEWESNGQPE NNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQG NVFSCSVLHEALKFHY TQKSLSLSPG	N/A	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT VTVSS (SEQ ID NO: 11)	GGGGS (SEQ ID NO: 13)	DKHTCTPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFYP SDIAVEWESNG QPENNYKTTPP VLDSGSGFFLY SKLTVDKSRWQ QGNVFSVCSVLH EALKFHYTQKS LSLSPG (SEQ ID NO: 2)
Fc Fusion Molecule 36 (SEQ ID NO: 51)	ABD1-G4S- Fc195(KIH)	EVQLLESGGGGLVQPGG SLRLSCAASGFTFRS GMSWVRQAPGKPEWV SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT VSSGGGSDKTHTCP CPAPPELLGGPSVFLFP PKPKDTLYITREPEVT CVVVDVSHEDPEVKFN WYVDGVEVHNAKTKPR EEQYNSTYRVVSVLTV LHQDWLNGKEYKCKV NKALPAPIEKTISKAK GQPREPQVCTLPPSRD ELTKNQVSLTCLVKGF YPSDIAVEWESNGQPE NNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQG NVFSCSVLHEALKFHY TQKSLSLSPG	DKHTCTPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHLDWLNKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSVCSVLHE ALKFHYTQKSLSL PG (SEQ ID NO: 9)	EVQLLESGGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT VTVSS (SEQ ID NO: 11)	GGGGS (SEQ ID NO: 13)	DKHTCTPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTPP VLDSGSGFFLV SKLTVDKSRWQ QGNVFSVCSVLH EALKFHYTQKS LSLSPG (SEQ ID NO: 8)
Fc Fusion Molecule 37 (SEQ ID NO: 52)	Fc195-G4S- ABD1	DKHTCTPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHLDWLN KEYKCKVSNKALPAPI EKTISKAKGQPREPQV	N/A	DKHTCTPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY	GGGGS (SEQ ID NO: 13)	EVQLLESGGG VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGK PEWVSSISGSG SDTLYADSVK RFTISRDNKNT LYLQMNSLRP

		YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTTPP VLDSGDSFFLYSKLTV DKSRWQQGNVFSCSVL HEALKFHYTQKSLSLS PGGGGGSEVQLLES GLVQPGGSLRLSCAAS GFTFRSFGMSWVRQAP GKGPEWVSSISGSGSD TLYADSVKGRFTISR NSKNTLYLQMNSLRPE DTAVYYCTIGGSLRS SQGTLVTVSS		RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVLHE ALKFHYTQKS LSLSPG (SEQ ID NO: 2)		EDTAVYYCTIG GSLSRSSQGTL VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 38 (SEQ ID NO: 53)	Fc195- 3G4S-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV YTLPPSRDELTKNQVS LTCLVKGFYPSDIAVE WESNGQPENNYKTTPP VLDSGDSFFLYSKLTV DKSRWQQGNVFSCSVL HEALKFHYTQKSLSLS PGGGGGSGGGSGGGG SEVQLLESGLVQPG GSLRLSCAASGFTFRS FGMSWVRQAPGKPEW VSSISGSGSDTLYADS VKGRFTISRDNKNTL YLQMNSLRPEDTAVYY CTIGGSLSRSSQGT TVSS	N/A	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVYT LPPSRDELTK NQVSLTCLVK GFYPSDIAVE WESNGQPENN YKTTTPVLDS DGSFFLYSKL TVDKSRWQQG NVFSCSVLHE ALKFHYTQKS LSLSPG (SEQ ID NO: 2)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLLES VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDNKSN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTL VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 39 (SEQ ID NO: 54)	ABD1- 3G4S-Fc195	EVQLLESGLVQPGG SLRLSCAASGFTFRS GMSWVRQAPGKPEW SSISGSGSDTLYADSV KGRFTISRDNKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT VSSGGGGSGGGSGGG GSDKTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVVDV SHEDPEVKFNWYVDG EVHNAKTKPREEQYN TYRVVSVLTVLHQDWL NGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVYTLPPSRDELTKNQ VSLTCLVKGFYPSDIA VEWESNGQPENNYKT PPVLDSGDSFFLYSKL TVDKSRWQQGNVFSCS VLHEALKFHYTQKSLS LSPG	N/A	EVQLLES LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKPEWVSS ISGSGSDTLY ADSVKGRFTI SRDNKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGTL VTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVYTL PSRDELTKNQV SLTCLVKGFY SDIAVEWESNG QPENNYKTTPP VLDSGDSFFLY SKLTVDKSRWQ QGNVFSCSVLH EALKFHYTQKS LSLSPG (SEQ ID NO: 2)

Fc Fusion Molecule 40 (SEQ ID NO: 55)	ABD1-3G4S-Fc195(KIH)	EVQLLES GGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKGPPEWV SSISGSGSDTLYADSV KGRFTISRDN SKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVT VSSGGGGSGGGSGGG GSDKHTHTCPPCPAPEL LGGPSVFLFPPKPKDT LYITREPEVTCVVDV SHEDPEVKFNWYVDGV EVHNAKTKPREEQYNS TYRVVSVLTVLHQDWL NGKEYKCKVSNKALPA PIEKTISKAKGQPREP QVCTLPSPSRDELTKNQ VSLSCAVKGFYPSDIA VEWESNGQPENNYKTT PPVLDSDGSFFLVSKL TVDKSRWQQGNVFSCS VLHEALKFHYTQKSL LSPG	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVLHE ALKFHYTQKSLSL PG (SEQ ID NO: 9)	EVQLLES GGG LVQPGGSLRL SCAASGFTFR SFGMSWVRQA PGKGPPEWVSS ISGSGSDTLY ADSVKGRFTI SRDN SKNTLY LQMNSLRPED TAVYYCTIGG SLSRSSQGT L VTVSS (SEQ ID NO: 11)	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	DKTHTCPPCPA PELLGGPSVFL FPPKPKDTLYI TREPEVTCVVV DVSHEDPEVKF NWYVDGVEVHN AKTKPREEQYN STYRVVSVLTV LHQDWLNGKEY KCKVSNKALPA PIEKTISKAKG QPREPQVCTLP PSRDELTKNQV SLSCAVKGFYP SDIAVEWESNG QPENNYKTTTP VLDSDGSFFLV SKLTVDKSRWQ QGNVFSCSVLH EALKFHYTQKS LSLSPG (SEQ ID NO: 8)
Fc Fusion Molecule 41 (SEQ ID NO: 68)	Fc197(KIH)-(G4S)-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPSPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SGGGGGSGGGSGGGG EVQLLES GGGGLVQPGG SLRLSCAASGFTFRSF GMSWVRQAPGKGPPEWV SSISGSGSDTLYADSV KGRFTISRDN SKNTLY LQMNSLRPEDTAVYYC TIGGSLSRSSQGT LVT VSS	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPSPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTTPVLDSD GSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)	GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 74)	EVQLLES GGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT L VTVSS (SEQ ID NO: 11)
Fc Fusion Molecule 42 (SEQ ID NO: 69)	Fc197(KIH)-(G4S)-ABD1	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPSPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSL PGGGGGSGGGSGGGG SGGGGGSGGGSGGGG GGGGSGGGSEVQLLE SGGGLVQPGGSLRLSC AASGFTFRSFGMSWVR	DKTHTCPPCPAPEL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPSPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTTPVLDSD GSFFLVSKL	GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 75)	EVQLLES GGGGL VQPGGSLRLSC AASGFTFRSFG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGT L VTVSS (SEQ ID NO: 11)

		QAPGKGPEWVSSISGS GSDTLYADSVKGRFTI SRDNSKNTLYLQMNSL RPEDTAVYYCTIGGSL SRSSQGTLVTVSS		TVDKSRWQQG NVFSCSVMH ALKYHYTQKS LSLSPG (SEQ ID NO: 6)		
Fc Fusion Molecule 43 (SEQ ID NO: 70)	Fc197(KIH)- (G4S)3- ABD1 (F32A)	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFCSTM HEALKYHYTQKSLSL PGGGGSGGGGSGGGG SEVQLLESGLVQPG GSLRLSCAASGFTFRS AGMSWVRQAPGKGP VSSISGSGSDTLYAD SVKGRFTISRDNKNTL YLQMNSLRPEDTAVY CTIGGSLSRSSQGT LTVSS	DKHTCPCPCAPPELLG LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSG SFFLYSKLTVDKSR WQQGNVFCSTMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFCSTM HEALKYHYTQKSLSL PGGGGSGGGGSGGGG SEVQLLESGLVQPG GSLRLSCAASGFTFRS AGMSWVRQAPGKGP VSSISGSGSDTLYAD SVKGRFTISRDNKNTL YLQMNSLRPEDTAVY CTIGGSLSRSSQGT LTVSS	GGGGS GGGGS GGGGS (SEQ ID NO: 15)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSAG MSWVRQAPGK PEWVSSISGSG SDTLYADSVK RFTISRDNK TLYLQMNSLR EDTAVYYCTIG GSLSRSSQGT LTVSS (SEQ ID NO: 76)
Fc Fusion Molecule 44 (SEQ ID NO: 71)	Fc197(KIH)- (G4S)6- ABD1 (F32A)	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFCSTM HEALKYHYTQKSLSL PGGGGSGGGGSGGGG SGGGGSGGGGSGGGG EVQLLESGLVQPG GSLRLSCAASGFTFRS AGMSWVRQAPGKGP VSSISGSGSDTLYAD SVKGRFTISRDNKNTL YLQMNSLRPEDTAVY CTIGGSLSRSSQGT LTVSS	DKHTCPCPCAPPELLG LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTTPVLDSG SFFLYSKLTVDKSR WQQGNVFCSTMHE ALKYHYTQKSLSL PG (SEQ ID NO: 7)	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP VLDSDGSFFLVSKLTV DKSRWQQGNVFCSTM HEALKYHYTQKSLSL PGGGGSGGGGSGGGG SGGGGSGGGGSGGGG EVQLLESGLVQPG GSLRLSCAASGFTFRS AGMSWVRQAPGKGP VSSISGSGSDTLYAD SVKGRFTISRDNKNTL YLQMNSLRPEDTAVY CTIGGSLSRSSQGT LTVSS	GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 74)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSAG MSWVRQAPGK PEWVSSISGSG SDTLYADSVK RFTISRDNK TLYLQMNSLR EDTAVYYCTIG GSLSRSSQGT LTVSS (SEQ ID NO: 76)
Fc Fusion Molecule 45 (SEQ ID NO: 72)	Fc197(KIH)- (G4S)7- ABD1 (F32A)	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP	DKHTCPCPCAPPELLG LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP	DKHTCPCPCAPPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFPYPSDIAVE WESNGQPENNYKTTTP	GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 14)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSAG MSWVRQAPGK PEWVSSISGSG SDTLYADSVK RFTISRDNK TLYLQMNSLR EDTAVYYCTIG GSLSRSSQGT LTVSS

		VLDSDGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSLS PGGGGSGGGGSGGGG SGGGGSGGGGSGGGG GGGSEVQLLESGGGL VQPGGSLRLSCAASGF TFRSAGMSWVRQAPGK GPEWVSSISGSGSDTL YADSVKGRFTISRDN KNTLYLQMNSLRPEDT AVYYCTIGGSLRSSQ GTLVTVSS	SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSLS PG (SEQ ID NO: 7)	PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS DGSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)		VTVSS (SEQ ID NO: 76)
Fe Fusion Molecule 46 (SEQ ID NO: 73)	Fe197(KIH)- (G4S)8- ABD1 (F32A)	DKTHTCPPCPAPELLG GPSVFLFPPKPKDTLY ITREPEVTCVVVDVSH EDPEVKFNWYVDGVEV HNAKTKPREEQYNSTY RVVSVLTVLHQDWLNG KEYKCKVSNKALPAPI EKTISKAKGQPREPQV CTLPPSRDELTKNQVS LSCAVKGFYPSDIAVE WESNGQPENNYKTTPP VLDSDGSFFLVSKLTV DKSRWQQGNVFSCSVM HEALKYHYTQKSLSLS PGGGGSGGGGSGGGG SGGGGSGGGGSGGGG GGGGSGGGSEVQLLE SGGGLVQPGGSLRLSC AASGFTFRSAGMSWVR QAPGKGPEWVSSISGS GSDTLYADSVKGRFTI SRDNSKNTLYLQMNSL RPEDTAVYYCTIGGSL SRSSQGTLVTVSS	DKTHTCPPCPAPELL LGGPSVFLFPPKPK DTLYITREPEVTCV VVDVSHEDPEVKFN WYVDGVEVHNAKTK PREEQYNSTYRVVS VLTVLHQDWLNGKE YKCKVSNKALPAPI EKTISKAKGQPREP QVYTLPPCRDELTK NQVSLWCLVKGFYP SDIAVEWESNGQPE NNYKTTPPVLDSDG SFFLYSKLTVDKSR WQQGNVFSCSVMHE ALKYHYTQKSLSLS PG (SEQ ID NO: 7)	DKTHTCPPCP APELLGGPSV FLFPPKPKDT LYITREPEVT CVVVDVSHED PEVKFNWYVD GVEVHNAKTK PREEQYNSTY RVVSVLTVLH QDWLNGKEYK CKVSNKALPA PIEKTISKAK GQPREPQVCT LPPSRDELTK NQVSLSCAVK GFYPSDIAVE WESNGQPENN YKTTPPVLDS DGSFFLVSKL TVDKSRWQQG NVFSCSVMHE ALKYHYTQKS LSLSPG (SEQ ID NO: 6)	GGGGS GGGGS GGGGS GGGGS GGGGS GGGGS GGGGS GGGGS GGGGS (SEQ ID NO: 75)	EVQLLESGGGL VQPGGSLRLSC AASGFTFRSAG MSWVRQAPGKG PEWVSSISGSG SDTLYADSVKG RFTISRDN SKN TLYLQMNSLRP EDTAVYYCTIG GSLSRSSQGTL VTVSS (SEQ ID NO: 76)

[00247] Further described herein, in certain embodiments, are Fc fusion molecules that bind neonatal Fc receptor (FcRn) comprising a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 16-55.

[00248] In some embodiments, the Fc fusion molecule comprises a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence

having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 16-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 16-55 or 68-73.

[00249] In some embodiments, the Fc fusion molecule comprises a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-55 or 68-73. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 28-55 or 68-73.

[00250] In some embodiments, the Fc fusion molecule comprises a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion

molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 28-45. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 28-45.

[00251] In some embodiments, the Fc fusion molecule comprises a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 46-55. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 46-55.

[00252] In some embodiments, the Fc fusion molecule comprises a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 85% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 90% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 95% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 96% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 97% sequence identity with an amino acid

sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 98% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence having at least 99% sequence identity with an amino acid sequence according to any one of SEQ ID NOs: 68-73. In some embodiments, the Fc fusion molecule comprises a sequence according to any one of SEQ ID NOs: 68-73.

[00253] In some embodiments, the Fc fusion molecules described herein comprise an extended half-life (i.e., serum half-life). In some embodiments, the Fc fusion molecules described herein comprise a half-life of at least about 14, 28, 42, 56, 70, 84, 96, or more than 96 weeks. In some embodiments, the Fc fusion molecules described herein comprise a half-life in a range of about 14 days to about 96 days, about 14 days to about 84 days, about 14 days to about 70 days, about 14 days to about 56 days, about 14 days to about 42 days, about 14 days to about 28 days, of about 28 days to about 96 days, about 28 days to about 84 days, about 28 days to about 70 days, about 28 days to about 56 days, about 28 days to about 42 days, of about 42 days to about 96 days, about 42 days to about 84 days, about 42 days to about 70 days, or about 42 days to about 56 days. In some embodiments, the Fc fusion molecules described herein comprise a half-life in a range of about 42 days to about 56 days. In some embodiments, the Fc fusion molecules described herein comprise a half-life of at least about 50 days. In some embodiments, the Fc fusion molecules described herein comprise a half-life of about 50 days. Methods of measuring half-life are known in the art. In some embodiments, the half-life is measured in a non-human primate. In some embodiments, the half-life is measured in a human.

[00254] In some embodiments, the Fc fusion molecules described herein have a half-life that is at least 20% longer than a comparator molecule. In some embodiments, the comparator molecule is an Fc fusion molecule not comprising an albumin or an albumin binding domain. In some embodiments, the albumin or the albumin domain comprises a sequence having at least 80% sequence identity (e.g., 80%, 85%, 90%, 95%, 97%, 99%, 100%) to the amino acid sequence of any one of SEQ ID NOs: 10-12 any one of SEQ ID NOs: 10-12. In some embodiments, the half-life of the Fc fusion molecules described herein is at least 30%, at least 40%, at least 50%, at least 60%, at least 70%, at least 80%, or at least 90% longer than the half-life of the comparator molecule. In some embodiments, the half-life of the Fc fusion molecules described herein is longer than the half-life of the comparator molecule by at least 2 fold, at least 3 fold, at least 4 fold, at least 5 fold, at least 6 fold, at least 7 fold, at least 8 fold, at least 9 fold, or at least 10 fold.

[00255] In some embodiments, the Fc fusion molecule reduces IgG levels to less than 60%, to less than 50%, to less than 40%, to less than 30%, or to less than 25%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 60%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 50%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 40%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 30%. In some embodiments, the Fc fusion molecule reduces IgG levels to less than 25%.

Binding

[00256] The affinity of a molecule X for its partner Y can be represented by the dissociation equilibrium constant (K_D). The kinetic components that contribute to the dissociation equilibrium constant are described in more detail below. Affinity can be measured by common methods known in the art, including those described herein, such as surface plasmon resonance (SPR) technology (e.g., BIACORE®) or biolayer interferometry (e.g., FORTEBIO®).

[00257] With regard to the binding of the Fc fusion molecule to a target molecule, the terms “bind,” “specific binding,” “specifically binds to,” “specific for,” “selectively binds,” and “selective for” a particular target (e.g., a polypeptide target such as FcRn) means binding that is measurably different from a non-specific or non-selective interaction (e.g., with a non-target molecule). Specific binding can be measured, for example, by measuring binding to a target molecule (e.g., FcRn) and comparing it to binding to a non-target molecule. Specific binding can also be determined by competition with a control molecule that mimics the target molecule. In that case, specific binding is indicated if the binding of the Fc fusion molecule to the target molecule is competitively inhibited by the control molecule. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 50% of the affinity for FcRn (i.e., the K_D for FcRn is two times lower than the K_D for a non-target). In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 40% of the affinity for FcRn. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 30% of the affinity for FcRn. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 20% of the affinity for FcRn. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 10% of the affinity for FcRn. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 1% of the affinity

for FcRn. In some embodiments, the affinity of the Fc fusion molecule for a non-target molecule is less than about 0.1% of the affinity for FcRn.

[00258] In some embodiments, the Fc fusion molecule binds to FcRn at pH 6.0 or pH 7.4 with a K_D of less than or equal to about 1×10^{-8} , 1.1×10^{-8} , 1.2×10^{-8} , 1.3×10^{-8} , 1.4×10^{-8} , 1.5×10^{-8} , 1.6×10^{-8} , 1.7×10^{-8} , 1.8×10^{-8} , 1.9×10^{-8} , 1.95×10^{-8} , 2×10^{-8} , 2.5×10^{-8} , 3×10^{-8} , 3.5×10^{-8} , 4×10^{-8} , 4.5×10^{-8} , 5×10^{-8} , 6×10^{-8} , 7×10^{-8} , 8×10^{-8} , 9×10^{-8} , 1×10^{-9} , 1.1×10^{-9} , 1.2×10^{-9} , 1.3×10^{-9} , 1.4×10^{-9} , 1.5×10^{-9} , 1.6×10^{-9} , 1.7×10^{-9} , 1.8×10^{-9} , 1.9×10^{-9} , 1.95×10^{-9} , 2×10^{-9} , 2.5×10^{-9} , 3×10^{-9} , 3.5×10^{-9} , 4×10^{-9} , 4.5×10^{-9} , 5×10^{-9} , 6×10^{-9} , 7×10^{-9} , 8×10^{-9} , 9×10^{-9} , 1×10^{-10} , 1.1×10^{-10} , 1.2×10^{-10} , 1.3×10^{-10} , 1.4×10^{-10} , 1.5×10^{-10} , 1.6×10^{-10} , 1.7×10^{-10} , 1.8×10^{-10} , 1.9×10^{-10} , 1.95×10^{-10} , 2×10^{-10} , 2.5×10^{-10} , 3×10^{-10} , 3.5×10^{-10} , 4×10^{-10} , 4.5×10^{-10} , 5×10^{-10} , 6×10^{-10} , 7×10^{-10} , 8×10^{-10} , or 9×10^{-10} M, as measured by ELISA or SPR or any other suitable method known in the art.

[00259] In some embodiments, the Fc fusion molecule binds to FcRn at pH 6.0 or pH 7.4 is between about $1.0\text{--}1.1 \times 10^{-8}$ M, $1.1\text{--}1.2 \times 10^{-8}$ M, $1.2\text{--}1.3 \times 10^{-8}$ M, $1.3\text{--}1.4 \times 10^{-8}$ M, $1.4\text{--}1.5 \times 10^{-8}$ M, $1.5\text{--}1.6 \times 10^{-8}$ M, $1.6\text{--}1.7 \times 10^{-8}$ M, $1.7\text{--}1.8 \times 10^{-8}$ M, $1.8\text{--}1.9 \times 10^{-8}$ M, $1.9\text{--}2 \times 10^{-8}$ M, $1\text{--}2 \times 10^{-8}$ M, $1\text{--}5 \times 10^{-8}$ M, $2\text{--}7 \times 10^{-8}$ M, $3\text{--}8 \times 10^{-8}$ M, $3\text{--}5 \times 10^{-8}$ M, $4\text{--}6 \times 10^{-8}$ M, $5\text{--}7 \times 10^{-8}$ M, $6\text{--}8 \times 10^{-8}$ M, $7\text{--}9 \times 10^{-8}$ M, $7\text{--}9.9 \times 10^{-8}$ M, $5\text{--}9.9 \times 10^{-8}$ M, $1.0\text{--}1.1 \times 10^{-9}$ M, $1.1\text{--}1.2 \times 10^{-9}$ M, $1.2\text{--}1.3 \times 10^{-9}$ M, $1.3\text{--}1.4 \times 10^{-9}$ M, $1.4\text{--}1.5 \times 10^{-9}$ M, $1.5\text{--}1.6 \times 10^{-9}$ M, $1.6\text{--}1.7 \times 10^{-9}$ M, $1.7\text{--}1.8 \times 10^{-9}$ M, $1.8\text{--}1.9 \times 10^{-9}$ M, $1.9\text{--}2 \times 10^{-9}$ M, $1\text{--}2 \times 10^{-9}$ M, $1\text{--}5 \times 10^{-9}$ M, $2\text{--}7 \times 10^{-9}$ M, $3\text{--}8 \times 10^{-9}$ M, $3\text{--}5 \times 10^{-9}$ M, $4\text{--}6 \times 10^{-9}$ M, $5\text{--}7 \times 10^{-9}$ M, $6\text{--}8 \times 10^{-9}$ M, $7\text{--}9 \times 10^{-9}$ M, $7\text{--}9.9 \times 10^{-9}$ M, or $5\text{--}9.9 \times 10^{-9}$ M as measured by ELISA or SPR or any other suitable method known in the art. In some embodiments, the Fc fusion molecule binds to FcRn at pH 6.0 or pH 7.4 with a K_D of less than or equal to about 1×10^{-8} M, or less than or equal to about 1×10^{-9} M as measured by ELISA or SPR or any other suitable method known in the art.

[00260] In some embodiments, the Fc fusion molecule binds to albumin (e.g., human serum albumin) at pH 6.0 or pH 7.4 with a K_D of less than or equal to about 1×10^{-8} , 1.1×10^{-8} , 1.2×10^{-8} , 1.3×10^{-8} , 1.4×10^{-8} , 1.5×10^{-8} , 1.6×10^{-8} , 1.7×10^{-8} , 1.8×10^{-8} , 1.9×10^{-8} , 1.95×10^{-8} , 2×10^{-8} , 2.5×10^{-8} , 3×10^{-8} , 3.5×10^{-8} , 4×10^{-8} , 4.5×10^{-8} , 5×10^{-8} , 6×10^{-8} , 7×10^{-8} , 8×10^{-8} , 9×10^{-8} , 1×10^{-9} , 1.1×10^{-9} , 1.2×10^{-9} , 1.3×10^{-9} , 1.4×10^{-9} , 1.5×10^{-9} , 1.6×10^{-9} , 1.7×10^{-9} , 1.8×10^{-9} , 1.9×10^{-9} , 1.95×10^{-9} , 2×10^{-9} , 2.5×10^{-9} , 3×10^{-9} , 3.5×10^{-9} , 4×10^{-9} , 4.5×10^{-9} , 5×10^{-9} , 6×10^{-9} , 7×10^{-9} , 8×10^{-9} , 9×10^{-9} , 1×10^{-10} , 1.1×10^{-10} , 1.2×10^{-10} , 1.3×10^{-10} , 1.4×10^{-10} , 1.5×10^{-10} , 1.6×10^{-10} , 1.7×10^{-10} , 1.8×10^{-10} , 1.9×10^{-10} , 1.95×10^{-10} , 2×10^{-10} , 2.5×10^{-10} , 3×10^{-10}

¹⁰, 3.5×10^{-10} , 4×10^{-10} , 4.5×10^{-10} , 5×10^{-10} , 6×10^{-10} , 7×10^{-10} , 8×10^{-10} , or 9×10^{-10} M, as measured by ELISA or SPR or any other suitable method known in the art.

[00261] In some embodiments, the Fc fusion molecule binds to albumin (e.g., human serum albumin) at pH 6.0 or pH 7.4 is between about $1.0\text{-}1.1 \times 10^{-8}$ M, $1.1\text{-}1.2 \times 10^{-8}$ M, $1.2\text{-}1.3 \times 10^{-8}$ M, $1.3\text{-}1.4 \times 10^{-8}$ M, $1.4\text{-}1.5 \times 10^{-8}$ M, $1.5\text{-}1.6 \times 10^{-8}$ M, $1.6\text{-}1.7 \times 10^{-8}$ M, $1.7\text{-}1.8 \times 10^{-8}$ M, $1.8\text{-}1.9 \times 10^{-8}$ M, $1.9\text{-}2 \times 10^{-8}$ M, $1\text{-}2 \times 10^{-8}$ M, $1\text{-}5 \times 10^{-8}$ M, $2\text{-}7 \times 10^{-8}$ M, $3\text{-}8 \times 10^{-8}$ M, $3\text{-}5 \times 10^{-8}$ M, $4\text{-}6 \times 10^{-8}$ M, $5\text{-}7 \times 10^{-8}$ M, $6\text{-}8 \times 10^{-8}$ M, $7\text{-}9 \times 10^{-8}$ M, $7\text{-}9.9 \times 10^{-8}$ M, $5\text{-}9.9 \times 10^{-8}$ M, $1.0\text{-}1.1 \times 10^{-9}$ M, $1.1\text{-}1.2 \times 10^{-9}$ M, $1.2\text{-}1.3 \times 10^{-9}$ M, $1.3\text{-}1.4 \times 10^{-9}$ M, $1.4\text{-}1.5 \times 10^{-9}$ M, $1.5\text{-}1.6 \times 10^{-9}$ M, $1.6\text{-}1.7 \times 10^{-9}$ M, $1.7\text{-}1.8 \times 10^{-9}$ M, $1.8\text{-}1.9 \times 10^{-9}$ M, $1.9\text{-}2 \times 10^{-9}$ M, $1\text{-}2 \times 10^{-9}$ M, $1\text{-}5 \times 10^{-9}$ M, $2\text{-}7 \times 10^{-9}$ M, $3\text{-}8 \times 10^{-9}$ M, $3\text{-}5 \times 10^{-9}$ M, $4\text{-}6 \times 10^{-9}$ M, $5\text{-}7 \times 10^{-9}$ M, $6\text{-}8 \times 10^{-9}$ M, $7\text{-}9 \times 10^{-9}$ M, $7\text{-}9.9 \times 10^{-9}$ M, or $5\text{-}9.9 \times 10^{-9}$ M as measured by ELISA or SPR or any other suitable method known in the art. In some embodiments, the Fc fusion molecule binds to albumin at pH 6.0 or pH 7.4 with a K_D of less than or equal to about 1×10^{-8} M, or less than or equal to about 1×10^{-9} M as measured by ELISA or SPR or any other suitable method known in the art.

PHARMACEUTICAL COMPOSITIONS

[00262] The present disclosure also features pharmaceutical compositions that contain a therapeutically effective amount of the Fc fusion molecules described herein. The composition can be formulated for use in a variety of drug delivery systems. One or more physiologically acceptable excipients or carriers can also be included in the composition for proper formulation. Suitable formulations for use in the present disclosure are found in Remington's Pharmaceutical Sciences, Mack Publishing Company, Philadelphia, Pa., 17th ed., 1985. For a brief review of methods for drug delivery, *see, e.g.*, Langer (Science 249:1527-1533, 1990).

[00263] In some embodiments, a pharmaceutical composition may contain formulation materials for modifying, maintaining or preserving, for example, the pH, osmolarity, viscosity, clarity, color, isotonicity, odor, sterility, stability, rate of dissolution or release, adsorption or penetration of the composition. In such embodiments, suitable formulation materials include, but are not limited to, amino acids (such as glycine, glutamine, asparagine, arginine or lysine); antimicrobials; antioxidants (such as ascorbic acid, sodium sulfite or sodium hydrogen-sulfite); buffers (such as borate, bicarbonate, Tris-HCl, citrates, phosphates or other organic acids); bulking agents (such as mannitol or glycine); chelating agents (such as ethylenediamine tetraacetic acid (EDTA)); complexing agents (such as caffeine, polyvinylpyrrolidone, beta-cyclodextrin or hydroxypropyl-beta-cyclodextrin); fillers; monosaccharides; disaccharides; and

other carbohydrates (such as glucose, mannose or dextrans); proteins (such as serum albumin, gelatin or immunoglobulins); coloring, flavoring and diluting agents; emulsifying agents; hydrophilic polymers (such as polyvinylpyrrolidone); low molecular weight polypeptides; salt-forming counterions (such as sodium); preservatives (such as benzalkonium chloride, benzoic acid, salicylic acid, thimerosal, phenethyl alcohol, methylparaben, propylparaben, chlorhexidine, sorbic acid or hydrogen peroxide); solvents (such as glycerin, propylene glycol or polyethylene glycol); sugar alcohols (such as mannitol or sorbitol); suspending agents; surfactants or wetting agents (such as pluronics, PEG, sorbitan esters, polysorbates such as polysorbate 20, polysorbate, triton, tromethamine, lecithin, cholesterol, tyloxapal); stability enhancing agents (such as sucrose or sorbitol); tonicity enhancing agents (such as alkali metal halides, preferably sodium or potassium chloride, mannitol sorbitol); delivery vehicles; diluents; excipients and/or pharmaceutical adjuvants (see, *Remington's Pharmaceutical Sciences*, 18th ed. (Mack Publishing Company, 1990)).

[00264] In some embodiments, a pharmaceutical composition is citrate-free.

[00265] In some embodiments, a pharmaceutical composition may contain nanoparticles, *e.g.*, polymeric nanoparticles, liposomes, or micelles.

[00266] In some embodiments, a pharmaceutical composition may contain a sustained- or controlled-delivery formulation. Techniques for formulating sustained- or controlled-delivery means, such as liposome carriers, bio-erodible microparticles or porous beads and depot injections, are also known to those skilled in the art. Sustained-release preparations may include, *e.g.*, porous polymeric microparticles or semipermeable polymer matrices in the form of shaped articles, *e.g.*, films, or microcapsules. Sustained release matrices may include polyesters, hydrogels, polylactides, copolymers of L-glutamic acid and gamma ethyl-L-glutamate, poly (2-hydroxyethyl-methacrylate), ethylene vinyl acetate, or poly-D(-)-3-hydroxybutyric acid. Sustained release compositions may also include liposomes that can be prepared by any of several methods known in the art.

[00267] Pharmaceutical compositions containing a Fc fusion molecules disclosed herein can be presented in a dosage unit form and can be prepared by any suitable method. A pharmaceutical composition should be formulated to be compatible with its intended route of administration. Examples of routes of administration are intravenous (IV), intradermal, inhalation, transdermal, topical, transmucosal, intrathecal and rectal administration. In some embodiments, the Fc fusion molecules disclosed herein is administered intravenously or subcutaneously. In some embodiments, the Fc fusion molecules disclosed herein is

administered intravenously. In some embodiments, the Fc fusion molecules disclosed herein is administered subcutaneously.

[00268] Useful formulations can be prepared by methods known in the pharmaceutical art. For example, see *Remington's Pharmaceutical Sciences*, 18th ed. (Mack Publishing Company, 1990). Formulation components suitable for parenteral administration include a sterile diluent such as water for injection, saline solution, fixed oils, polyethylene glycols, glycerin, propylene glycol or other synthetic solvents; antibacterial agents such as benzyl alcohol or methyl parabens; antioxidants such as ascorbic acid or sodium bisulfite; chelating agents such as EDTA; buffers such as acetates, citrates or phosphates; and agents for the adjustment of tonicity such as sodium chloride or dextrose. In some embodiments, the formulation for parenteral administration is citrate-free.

[00269] For intravenous or subcutaneous administration, suitable carriers include physiological saline, bacteriostatic water, Cremophor ELTM (BASF, Parsippany, NJ) or phosphate buffered saline (PBS). The carrier should be stable under the conditions of manufacture and storage, and should be preserved against microorganisms. The carrier can be a solvent or dispersion medium containing, for example, water, ethanol, polyol (for example, glycerol, propylene glycol, and liquid polyethylene glycol), and suitable mixtures thereof.

[00270] An intravenous or subcutaneous drug delivery formulation may be contained in a syringe, pen, or bag. In some embodiments, the bag is connected to a channel comprising a tube and/or a needle. In some embodiments, the formulation is a lyophilized formulation or a liquid formulation.

[00271] These compositions may be sterilized by conventional sterilization techniques, or may be sterile filtered. The resulting aqueous solutions may be packaged for use as-is, or lyophilized, the lyophilized preparation being combined with a sterile aqueous carrier prior to administration.

[00272] A polyol, which acts as a tonicifier and may stabilize the Fc fusion molecules, may also be included in the formulation. The polyol is added to the formulation in an amount which may vary with respect to the desired isotonicity of the formulation. In some embodiments, the aqueous formulation is isotonic. The amount of polyol added may also be altered with respect to the molecular weight of the polyol. For example, a lower amount of a monosaccharide (*e.g.*, mannitol) is added, compared to a disaccharide (such as trehalose). In some embodiments, the polyol which is used in the formulation as a tonicity agent is mannitol.

[00273] A detergent or surfactant may also be added to the formulation. Exemplary detergents include nonionic detergents such as polysorbates (*e.g.*, polysorbates 20, 80 etc.) or poloxamers (*e.g.*, poloxamer 188). The amount of detergent added is such that it reduces aggregation of the formulated Fc fusion molecule and/or minimizes the formation of particulates in the formulation and/or reduces adsorption. In some embodiments, the formulation may include a surfactant which is a polysorbate. In some embodiments, the formulation may contain the detergent polysorbate 80 or Tween 80. Tween 80 is a term used to describe polyoxyethylene (20) sorbitanmonooleate (see Fiedler, *Lexikon der Hilfsstoffe*, Editio Cantor Verlag Aulendorf, 4th edi., 1996).

[00274] In embodiments, the protein product of the present disclosure is formulated as a liquid formulation. In some embodiments, the liquid formulation is prepared in combination with a sugar at stabilizing levels. In some embodiments, the liquid formulation is prepared in an aqueous carrier. In some embodiments, a stabilizer is added in an amount no greater than that which may result in a viscosity undesirable or unsuitable for intravenous administration. In some embodiments, the sugar is disaccharides, *e.g.*, sucrose. In some embodiments, the liquid formulation may also include one or more of a buffering agent, a surfactant, and a preservative.

[00275] In some embodiments, the pH of the liquid formulation is set by addition of a pharmaceutically acceptable acid and/or base. In some embodiments, the pharmaceutically acceptable acid is hydrochloric acid. In some embodiments, the base is sodium hydroxide.

[00276] The aqueous carrier of interest herein is one which is pharmaceutically acceptable (safe and non-toxic for administration to a human) and is useful for the preparation of a liquid formulation. Illustrative carriers include sterile water for injection (SWFI), bacteriostatic water for injection (BWFI), a pH buffered solution (*e.g.*, phosphate-buffered saline), sterile saline solution, Ringer's solution or dextrose solution.

[00277] A preservative may be optionally added to the formulations herein to reduce bacterial action. The addition of a preservative may, for example, facilitate the production of a multi-use (multiple-dose) formulation.

[00278] The Fc fusion molecules may be lyophilized to produce a lyophilized formulation including the proteins and a lyoprotectant. The lyoprotectant may be sugar, *e.g.*, disaccharides. In some embodiments, the lyoprotectant is sucrose or maltose. The lyophilized formulation may also include one or more of a buffering agent, a surfactant, a bulking agent, and/or a preservative.

[00279] The amount of sucrose or maltose useful for stabilization of the lyophilized drug product may be in a weight ratio of at least 1:2 protein to sucrose or maltose. In some embodiments, the protein to sucrose or maltose weight ratio is of from 1:2 to 1:5. In some embodiments, the pH of the formulation, prior to lyophilization, is set by addition of a pharmaceutically acceptable acid and/or base. In some embodiments, the pharmaceutically acceptable acid is hydrochloric acid. In some embodiments, the pharmaceutically acceptable base is sodium hydroxide.

[00280] A patient's dose can be tailored to the approximate body weight or surface area of the patient. Other factors in determining the appropriate dosage can include the disease or condition to be treated or prevented, the severity of the disease, the route of administration, and the age, sex, and medical condition of the patient. Further refinement of the calculations necessary to determine the appropriate dosage for treatment is routinely made by those skilled in the art, especially in light of the dosage information and assays disclosed herein. The dosage can also be determined through the use of known assays for determining dosages used in conjunction with appropriate dose-response data. An individual patient's dosage can be adjusted as the progress of the disease is monitored. Blood levels of the targetable construct or complex in a patient can be measured to see if the dosage needs to be adjusted to reach or maintain an effective concentration. Pharmacogenomics may be used to determine which targetable constructs and/or complexes, and dosages thereof, are most likely to be effective for a given individual (Schmitz *et al.*, *Clinica Chimica Acta* 308: 43-53, 2001; Steimer *et al.*, *Clinica Chimica Acta* 308: 33-41, 2001).

METHODS OF USE

[00281] In some embodiments, the present application provides methods of contacting FcRn with the Fc fusion molecules described herein. In some embodiments, the FcRn is expressed on a cell surface.

[00282] In some embodiments, the present application provides methods of using the Fc fusion molecules described herein for treatment of a disorder or disease in a patient in need thereof. In some embodiments, the present application provides methods of using the Fc fusion molecules described herein to reduce IgG levels in a patient in need thereof. In some embodiments, described herein is a method for treating a patient in need thereof, the method comprising administering to a patient in need thereof a therapeutically effective amount of the

Fc fusion molecule or pharmaceutical composition comprising the Fc fusion molecule described herein.

[00283] In some embodiments, the present application provides methods of using the Fc fusion molecules described herein for treatment of a disorder or disease in a patient in need thereof. In some embodiments, described herein is a method for treating a patient in need thereof with the Fc fusion molecules as described herein, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecules or pharmaceutical composition comprising the Fc fusion molecules described herein. In some embodiments, the present application provides methods of treating a disorder or disease associated with elevated levels of IgG in a subject, by administering the Fc fusion molecules described herein.

[00284] In some embodiments, described herein are methods for treating a pathology associated with IgG activity, the method comprising administering to a patient in need thereof a therapeutically effective amount of the Fc fusion molecules or a pharmaceutical composition comprising the Fc fusion molecules described herein.

[00285] In some embodiments, described herein are methods for treating a pathology associated with elevated levels of FcRn in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecules or a pharmaceutical composition described herein.

[00286] In some embodiments, described herein is a method for treating or preventing a disorder or disease related to an antibody (e.g., an autoimmune disease or a disorder related to an unwanted side-effect of a therapeutic antibody) in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the Fc fusion molecules disclosed herein or a pharmaceutical composition disclosed herein. In some embodiments, the inflammatory disorder or disease is an autoimmune disease. In some embodiments, the inflammatory disorder or disease is myasthenia gravis (gMG). In some embodiments, the inflammatory disorder or disease is immune thrombocytopenia (ITP).

[00287] In some embodiments, described herein is a method for treating a pathology associated with elevated levels of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the Fc fusion molecules disclosed herein or a pharmaceutical composition disclosed herein.

[00288] In some embodiments, described herein is a method of reducing biological activity of an IgG in a patient in need thereof, the method comprising administering to the patient a

therapeutically effective amount the Fc fusion molecules disclosed herein or a pharmaceutical composition disclosed herein.

[00289] In some embodiments, described herein is a method of treating or preventing autoimmune disease. In some embodiments, the autoimmune disease is caused by auto-reactive antibodies.

[00290] In some embodiments, the disease or disorder is generalized myasthenia gravis (gMG), chronic inflammatory demyelinating polyneuropathy, myositis, autoimmune encephalitis, myelin oligodendrocyte glycoprotein antibody disorders (MOG-antibody disorder), membranous nephropathy, lupus nephritis, thyroid eye disease, warm autoimmune hemolytic anemia, hemolytic disease of the fetus and newborn, idiopathic thrombocytopenic purpura, primary Sjogren's Syndrome, systemic lupus erythematosus, rheumatoid arthritis, bullous pemphigoid, pemphigus foliaceus, pemphigus vulgaris, or cutaneous lupus erythematosus.

[00291] In some embodiments, the disease or disorder is an autoimmune disease.

[00292] In some embodiments, the autoimmune disease is selected from the group consisting of allogenic islet graft rejection, alopecia areata, ankylosing spondylitis, antiphospholipid syndrome, autoimmune Addison's disease, Alzheimer's disease, antineutrophil cytoplasmic autoantibodies (ANCA), autoimmune diseases of the adrenal gland, autoimmune hemolytic anemia, autoimmune hepatitis, autoimmune myocarditis, autoimmune neutropenia, autoimmune oophoritis and orchitis, autoimmune thrombocytopenia, autoimmune urticaria, Behcet's disease, bullous pemphigoid, cardiomyopathy, Castleman's syndrome, celiac spruce-dermatitis, chronic fatigue immune dysfunction syndrome, chronic inflammatory demyelinating polyneuropathy (CIDP), Churg-Strauss syndrome, cicatricial pemphigoid, CREST syndrome, cold agglutinin disease, Crohn's disease, dermatomyositis, dilated cardiomyopathy, discoid lupus, epidermolysis bullosa acquisita, essential mixed cryoglobulinemia, factor VIII deficiency, fibromyalgia-fibromyositis, glomerulonephritis, Grave's disease, Guillain-Barre, Goodpasture's syndrome, graft-versus-host disease (GVHD), Hashimoto's thyroiditis, hemophilia A, idiopathic inflammatory myopathies, idiopathic membranous neuropathy, idiopathic pulmonary fibrosis, idiopathic thrombocytopenia purpura (ITP), IgA neuropathy, IgM polyneuropathies, immune mediated thrombocytopenia, juvenile arthritis, Kawasaki's disease, lichen planus, lichen sclerosus, lupus erythematosus, Meniere's disease, mixed connective tissue disease, mucous membrane pemphigoid, multiple sclerosis, type 1 diabetes mellitus, Multifocal motor neuropathy (MMN), myasthenia gravis,

paraneoplastic bullous pemphigoid, pemphigoid gestationis, pemphigus vulgaris, pemphigus foliaceus, pernicious anemia, polyarteritis nodosa, polychondritis, polyglandular syndromes, polymyalgia rheumatica, polymyositis and dermatomyositis, primary agammaglobulinemia, primary biliary cirrhosis, psoriasis, psoriatic arthritis, relapsing polychondritis, Raynaud's phenomenon, Reiter's syndrome, rheumatoid arthritis, sarcoidosis, scleroderma, Sjogren's syndrome, solid organ transplant rejection, stiff-man syndrome, systemic lupus erythematosus, takayasu arteritis, toxic epidermal necrolysis (TEN), Stevens Johnson syndrome (SJS), temporal arteritis/giant cell arteritis, thrombotic thrombocytopenia purpura, ulcerative colitis, uveitis, dermatitis herpetiformis vasculitis, anti-neutrophil cytoplasmic antibody-associated vasculitides, vitiligo, and Wegner's granulomatosis.

[00293] In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 50% within 7 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 50% within 5 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 50% within 3 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 50% within 2 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 50% within 1 day of the first administration.

[00294] In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 7 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 6 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 5 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 4 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 3 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 2 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 75% within 1 day of the first administration.

[00295] In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 7 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 6 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG

levels by at least 80% within 5 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 4 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 3 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 2 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 80% within 1 day of the first administration.

[00296] In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 7 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 6 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 5 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 4 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 3 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 2 days of the first administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels by at least 90% within 1 day of the first administration.

[00297] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60%, to less than 50%, to less than 40%, to less than 30%, or to less than 25% for at least 5 days, 7 days, 10 days, 15 days, or 20 days post administration.

[00298] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60% for at least 5 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60% for at least 7 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60% for at least 10 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60% for at least 15 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 60% for at least 20 days post-administration.

[00299] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 50% for at least 5 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 50% for at least 7 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG

levels to less than 50% for at least 10 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 50% for at least 15 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 50% for at least 20 days post-administration.

[00300] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40% for at least 5 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40% for at least 7 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40% for at least 10 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40% for at least 15 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 40% for at least 20 days post-administration.

[00301] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30% for at least 5 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30% for at least 7 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30% for at least 10 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30% for at least 15 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 30% for at least 20 days post-administration.

[00302] In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25% for at least 5 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25% for at least 7 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25% for at least 10 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25% for at least 15 days post-administration. In some embodiments, administration of the Fc fusion molecule reduces IgG levels to less than 25% for at least 20 days post-administration.

[00303] In some embodiments, the IgG levels are reduced as compared to a baseline. In some embodiments, the baseline is the IgG level in the patient prior to administration. In some embodiments, the baseline is the IgG level in a comparable patient without the administration of the Fc fusion molecule described herein.

METHODS OF PREPARATION

[00304] The Fc fusion molecules described above can be made using recombinant DNA technology well known to a skilled person in the art. For example, one or more isolated polynucleotides encoding the Fc fusion molecules can be ligated to other appropriate nucleotide sequences, including, for example, constant region coding sequences, and expression control sequences, to produce conventional gene expression constructs (*i.e.*, expression vectors) encoding the desired Fc fusion molecules. Production of defined gene constructs is within routine skill in the art.

[00305] Nucleic acids encoding desired Fc fusion molecules can be incorporated (ligated) into expression vectors, which can be introduced into host cells through conventional transfection or transformation techniques. Exemplary host cells are *E. coli* cells, Chinese hamster ovary (CHO) cells, human embryonic kidney 293 (HEK 293) cells, HeLa cells, baby hamster kidney (BHK) cells, monkey kidney cells (COS), human hepatocellular carcinoma cells (*e.g.*, Hep G2), and myeloma cells that do not otherwise produce IgG protein. Transformed host cells can be grown under conditions that permit the host cells to express the genes that encode the Fc fusion molecules.

[00306] Specific expression and purification conditions will vary depending upon the expression system employed. For example, if a gene is to be expressed in *E. coli*, it is first cloned into an expression vector by positioning the engineered gene downstream from a suitable bacterial promoter, *e.g.*, Trp or Tac, and a prokaryotic signal sequence. The expressed protein may be secreted. The expressed protein may accumulate in refractile or inclusion bodies, which can be harvested after disruption of the cells by French press or sonication. The refractile bodies then are solubilized, and the protein may be refolded and/or cleaved by methods known in the art.

[00307] If the engineered gene is to be expressed in eukaryotic host cells, *e.g.*, CHO cells, it is first inserted into an expression vector containing a suitable eukaryotic promoter, a secretion signal, a poly A sequence, and a stop codon. Optionally, the vector or gene construct may contain enhancers and introns. In some embodiments, the expression vector optionally contains sequences encoding all or part of a constant region, enabling an entire, or a part of, a heavy or light chain to be expressed. The gene construct can be introduced into eukaryotic host cells using conventional techniques.

[00308] In some embodiments, an N-terminal signal sequence is included in the protein construct. Exemplary N-terminal signal sequences include signal sequences from interleukin-2, CD-5, IgG kappa light chain, trypsinogen, serum albumin, and prolactin.

[00309] After transfection, single clones can be isolated for cell bank generation using methods known in the art, such as limited dilution, ELISA, FACS, microscopy, or Clonepix. Clones can be cultured under conditions suitable for bio-reactor scale-up and maintained expression of the Fc fusion molecules.

[00310] The Fc fusion molecules can be isolated and purified using methods known in the art including centrifugation, depth filtration, cell lysis, homogenization, freeze-thawing, affinity purification, gel filtration, ion exchange chromatography, hydrophobic interaction exchange chromatography, and mixed-mode chromatography.

EXAMPLES

[00311] The disclosure now being generally described, will be more readily understood by reference to the following examples, which are included merely for purposes of illustration of certain aspects and embodiments of the present disclosure, and is not intended to limit the disclosure.

Example 1: Measuring binding kinetics of Fc fusion molecules to albumin and huFcRn using surface plasmon resonance

[00312] A Biacore 8K SPR system equipped with a CM5 Sensor Chip immobilized with an anti-human Fc specific antibody by amine coupling, was used to determine the binding kinetic rate and affinity constants at 25 °C and in a running buffer of Fc fusion molecules pH 6.0 or pH 7.4 (10 mM HEPES, 150 mM NaCl, 3 mM EDTA, 0.05% Surfactant P20). Following a stabilization period in running buffer, the Fc fusion molecules at 20 nM were captured onto flow cell 2 (active) for 60 sec at a flow rate of 30 uL/min. Recombinant in-house Human FcRn (huFCRN) protein or human serum albumin (HSA) was prepared at concentrations of 0, 26.25, 52.5, 125, 250, and 500 nM and injected over flow cell 1 (reference) and flow cell 2 (active) for 120 sec at a flow rate of 30 uL/min. Recombinant Fc molecules were prepared at concentrations of 0, 25, 50, 100, 200, and 400 nM and injected over flow cell 1 (reference) and flow cell 2 (active) for 120 sec at a flow rate of 30 uL/min. Samples were injected in a multi-cycle manner over freshly captured Fc fusion molecule, by regenerating the capture surfaces with injection of 10 mM glycine pH 1.5 for 30 sec at a flow rate of 30 uL/min. The data was processed and analyzed with Biacore Insight Evaluation Software Version 2.0.15.12933 (GE

Healthcare) as follows. Responses from flow cell 1 (reference) were subtracted from the responses from flow cell 2 (active). The responses from the two buffer blank injections were then subtracted from the reference subtracted data (2–1) to yield double-referenced data, which were fit to a 1:1 binding model to determine the apparent association (k_a) and dissociation rate constants (k_d). Their ratio provided the apparent equilibrium dissociation constant or affinity constant ($K_D = k_d/k_a$).

[00313] Binding kinetics are shown in Table 2 and FIGs. 2A-2D, 3A-3D, 4A-4D, and 5A-5D.

Table 2. Binding Kinetics of HSA and huFcRn from different bivalent and monovalent Fc fusion molecules at pH 6 and pH 7.4

Sample ID	HSA K_D (nM)		HuFcRn K_D (nM)	
	pH 6.0	pH 7.4	pH 6.0	pH 7.4
Fc Fusion Molecule 5	6.32	10.8	8.07	375
Fc Fusion Molecule 6	33.8	45.6	2.10	634
Fc Fusion Molecule 11	7.26	12.0	6.69	371
Fc Fusion Molecule 12	33.4	54.6	11.3	492

Example 2: Production of Fc fusion molecules in CHO cells

[00314] The production of Fc fusion molecules in CHO cell culture was performed as described in the Method section disclosed herein.

Culture yields, the percentage of monomer as determined by analytical size-exclusion chromatography (aSEC), and the amount of LPS as measured in endotoxin units per milligram (EU/mg) are shown in Table 3.

Table 3. Production of Fc fusion molecules in CHO cells

Name	Protein con. (mg/mL)	Protein amount (mg)	Culture (mL)	aSEC Monomer (%)	LPS (EU/mg)	Description	Fc fusion molecule format
Fc Fusion Molecule 5	10.09	529.52	1000	100	<0.20	ABD1-G4S-Efgart	Format 1
Fc Fusion Molecule 7	0.56	0.42	50	100	<0.20	ABD1-(G4S)3-Efgart	Format 1

Fc Fusion Molecule 9	9.88	20.75	50	100	<0.20	ABD1-G4S-Efgart(H)/Efgart(K)	Format 3
Fc Fusion Molecule 11	1.99	2.19	50	100	<0.20	ABD1-(G4S)3-Efgart(H)/Efgart(K)	Format 3
Fc Fragment 4	10.42	187.53	1000	100	0.08	Efgart-KIH control	
Fc Fusion Molecule 6	10.65	287.55	1000	100	0.15	Efgart-G4S-ABD1	Format 2
Fc Fusion molecule 8	10.73	568.65	1000	100	0.02	Efgart-(G4S)3-ABD1	Format 2
Fc Fusion Molecule 10	10.16	154.44	1000	100	0.03	Efgart(H)-G4S-ABD1/Efgart(K)	Format 4
Fc Fusion Molecule 12	10.26	225.81	1000	100	0.04	Efgart(H)-(G4S)3-ABD1/Efgart(K)	Format 4

Example 3: Properties of Fc fusion molecules

[00315] Fc fusion molecules were assessed for DNA and insulin reactivity as well as for their propensity to self-associate (methods provided below). Additionally, differential scanning fluorimetry (DSF) and SLS-signal at 266 nm against temperature were used to determine T_m and Tagg of Fc fusion molecules. DSF and SLS were performed as described in the Method section disclosed herein. All corresponding results are shown in **Table 4**.

[00316] A polyreactive ELISA assay was used to screen for DNA and insulin reactivity of Fc fusion molecules. In this assay, plates were coated overnight at 4°C with DNA (10 µg/ml) (DNA) and 5 µg/ml (insulin) in PBS pH 7.5. Wells were washed with water, blocked with 50 µl of Polyreactivity ELISA buffer (PEB; PBS containing 0.05% Tween-20, 1 mM EDTA) for 1 hour at room temperature, and rinsed three times with water. Serially-diluted Fc fusion molecules in 25 µl were added in quadruplicate to the wells and incubated for 1 hours at room temperature. Plates were washed three times with water, and 25 µl of 10 ng/ml goat anti-human IgG (Fc specific) conjugated to horseradish peroxidase were added to each well. Plates were incubated for 1 hour at room temperature, washed three times with 80 µl of water, and 25 µL

of TMB substrate added to each well. Reactions were stopped after approximately 7 minutes by adding 25 μ l of 0.18 M orthophosphoric acid to each well, and absorbance was read at 450 nm. DNA- and insulin-binding scores were calculated as the ratio of the ELISA signal of the Fc fusion molecule at 10 μ g/ml to the signal of a well containing buffer instead of the primary antibody.

[00317] An affinity-capture self-interaction nanoparticle spectroscopy (AC-SINS) assay was performed to determine the propensity of Fc fusion molecules to self-associate. Briefly, 20 nm gold nanoparticles were coated with a mixture of 80% goat anti-human Fc and 20% non-specific goat polyclonal antibodies that were buffer exchanged into 20 mM sodium acetate pH 4.3 and diluted to 0.4 mg/ml. After one hour incubation at room temperature, sites unoccupied on the gold nanoparticles were blocked with thiolated polyethylene glycol (2 kD). The coated nanoparticles were then concentrated 10-fold using a syringe filter and 10 μ l were added to 100 μ l of mAb at 0.05 mg/ml in PBS pH 7.2. The coated nanoparticles were incubated with the Fc fusion molecule of interest for 2 hrs in a 96-well polypropylene plate and then transferred to a 384-well polystyrene plate and read on a spectrophotometer. The absorbance was read from 450–650 in 2 nm increments. The smoothed max absorbance of the average blank (PBS alone) was subtracted from the smoothed max absorbance of the antibody sample to determine the antibody AC-SINS score.

[00318] Most Fc fusion molecules exhibited favorable DNA-binding, insulin-binding, and AC-SINS scores. The DSF analysis showed that Fc Fusion Molecule 7 had a T_M value of nearly 80 $^{\circ}$ C, while most remaining samples showed a T_M between 60-76 $^{\circ}$ C. Fc Fusion Molecule 7 had the highest T_{agg} value (72.9 $^{\circ}$ C) and the other Fc fusion molecules showed a T_M between 65.3-72.2 $^{\circ}$ C.

Table 4. Characterization of Fc fusion molecules

Sample ID	Polyreactive ELISA		AC-SINS		DSF		SLS	Description
	DNA score	Insulin score	$\Delta\lambda_{max}$ (nm)	Standard deviation (nm)	T_{M1} ($^{\circ}$ C)	T_{M2} ($^{\circ}$ C)	T_{agg} ($^{\circ}$ C)	
Fc Fusion Molecule 5	3	1	3	0.1	59.5	-	69.8	ABD1-G4S-Efgart
Fc Fusion Molecule 7	5	1	1	0.2	59.4	79.7	72.9	ABD1-(G4S)3-Efgart
Fc Fusion Molecule 9	4	1	-1	0.7	59.3	73.7	65.3	ABD1-G4S-Efgart(H)/Efgart(K)
Fc Fusion Molecule 11	11	1	0	0.2	60.3	76	68.4	ABD1-(G4S)3-Efgart(H)/Efgart(K)
Fc Fragment 4	6	1	-1	0.6	59.4	75.7	72.2	Efgart-KIH control

Fc Fusion Molecule 6	4	1	-2	0.5	60.1	-	64.5	Efgart-G4S-ABD1
Fc Fusion Molecule 8	4	1	0	0.2	59.0	-	64.1	Efgart-(G4S)3-ABD1
Fc Fusion Molecule 10	5	1	-1	0.8	60.7	-	66.6	Efgart(H)-G4S-ABD1/Efgart(K)
Fc Fusion Molecule 12	6	1	0	0.2	59.7	73.1	66.2	Efgart(H)-(G4S)3-ABD1/Efgart(K)

Example 4: Pharmacokinetics (PK) and pharmacodynamics (PD) of Fc fusion molecules in Mice

[00319] This example describes a pharmacokinetic (PK)/pharmacodynamic (PD) study of the Fc fusion molecules in mice.

[00320] An exemplary work flow is seen in **FIG. 6** and a summary of the study parameters is seen in **Table 5**. Briefly, mice were split into different cohorts. The various fusion molecules were administered to the mice intravenously. An exemplary control Fc fusion molecule (PAL02-173) comprising an Fc fragment and an RSV binding domain, in place of an albumin binding domain, was similarly administered to the mice intravenously. The study period occurred over 21 days with blood sampling taken at 11 time points.

Table 5. Study Parameters

Study Parameters	
Animals	96 animals (n=8 x 12 cohorts)
Route of Admin	IV infusion
Tracer IgG	IVIG, 200 mg/kg
Study Period	21-day study

[00321] The data is seen in **FIGs. 7A-7E**. The PK/PD profiles demonstrated Fc Fusion Molecule 6 showed an improved PD effect and prolonged serum exposure superior to Fc Fragment 1 (**FIGs. 7A-7B**). Fc Fusion Molecule 6 also exhibited a difference compared to Fc Fragment 1 and Fc Fusion Molecule 5 in human IVIG tracer reduction using one-way ANOVA analysis.

Example 5. Binding Kinetics of Exemplary Fc Fragments to FcRn from Different Species

[00322] This example demonstrated the binding kinetics of exemplary Fc Fragments to FcRn from different species at acidic and physiological pH.

[00323] The binding kinetics of exemplary Fc fragments to human, cynomolgus monkey, mouse, and rat FcRn were measured using surface plasmon resonance (SPR). The binding affinity (K_D) was calculated at both pH 6.0 and pH 7.4 as shown in **Table 6**.

Table 6. Binding Kinetics of Exemplary Fc Fragments

mAb ID	HuFcRn KD (M)		cynoFcRn KD (M)		mouse FcRn KD (M)		rat_FcRn KD (M)	
	pH 6	pH 7.4	pH 6	pH 7.4	pH 6	pH 7.4	pH 6	pH 7.4
Wild-type IgG1	7.4E-7*		3.3E-7*		7.2E-8*		6.8E-8*	
Fc Fragment 1	8.80E-09	2.39E-07	3.97E-08	1.37E-06	2.69E-10	2.80E-09	3.71E-09	1.23E-08
Fc Fragment 2	8.05E-09	2.59E-07	3.62E-08	1.54E-06	1.82E-10	2.55E-09	3.50E-09	1.18E-08
Fc Fragment 3	6.74E-09	2.10E-07	2.89E-08	9.48E-07	1.72E-10	2.38E-09	4.25E-09	1.49E-08
Fc Fragment 10	6.62E-09	1.69E-07	2.86E-08	7.25E-07	1.43E-10	1.53E-09	3.49E-09	1.15E-08
Fc Fragment 11	8.41E-09	2.69E-07	3.86E-08	1.70E-06	2.48E-10	4.05E-09	2.90E-09	1.47E-08
Fc Fragment 12	7.15E-09	1.66E-07	3.01E-08	9.00E-07	1.94E-10	2.83E-09	5.41E-09	1.73E-08
Fc Fragment 13	9.53E-09	2.48E-07	4.17E-08	1.37E-06	2.00E-10	2.73E-09	4.33E-09	1.62E-08
Fc Fragment 14	8.26E-09	2.49E-07	3.61E-08	1.60E-06	2.88E-10	2.34E-09	3.94E-09	1.24E-08
Fc Fragment 15	7.64E-08	2.91E-07	6.08E-08	1.43E-06	No data			
Fc Fragment 16	5.31E-08	3.71E-07	4.72E-08	1.68E-06				
Fc Fragment 17	6.83E-08	2.93E-07	6.21E-08	2.19E-06				
Fc Fragment 18	5.87E-08	2.62E-07	5.12E-08	2.11E-06				
Fc Fragment 19	8.04E-08	2.52E-07	1.25E-06	1.43E-06				

Fc Fragment 20	5.17E-08	2.90E-07	3.72E-07	1.55E-06	
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*kinetic values were adapted from a reference doi.org/10.1080/19420862.2015.1008353

Example 6. Exemplary Fc Fragments Block IgG Binding to human FcRn

[00324] This example demonstrates the ability of exemplary Fc fragments to block IgG binding to human FcRn.

[00325] Briefly, the ability of exemplary Fc fragments to block IgG and a comparator Fc Fragment 1, which is Efgartigimod without the C-terminal lysine, binding to human FcRn was measured by competitive binding ELISA assays at pH 6.0. The IC₅₀ values were calculated for the exemplary Fc fragments and are shown in **Table 7**.

Table 7. IC50 Values for Exemplary Fc Fragments

Construct	Mutations	IC50 for IgG blocking (in triplicate) (nM)	IC50 for Efgartigimod inhibition (nM)
Wild-type IgG1	N/A	ND	ND
Fc Fragment 1	M252Y/S254T/T256E/H433K/N434F	2.85	4.82
Fc Fragment 2	M252Y/S254T/T256E/M428L/H433K/N434F	1.31	4.09
Fc Fragment 3	M252Y/S254T/T256E/H433K/N434Y	0.77	4.59
Fc Fragment 10	M252Y/S254T/T256E/M428L/H433K/N434Y	1.48	5.03
Fc Fragment 11	M252Y/S254T/T256E/M428L/N434F	1.51	6.47
Fc Fragment 12	M252Y/S254T/T256E/H433R/N434Y	1.41	3.73
Fc Fragment 13	M252Y/S254T/T256E/H433R/N434F	1.13	4.71
Fc Fragment 14	M252Y/S254T/T256E/M428L/H433R/N434F	2.09	3.85
Fc Fragment 15	M252Y/S254T/T256E/L309D/H433K/N434F	30.31	No Data
Fc Fragment 16	M252Y/S254T/T256E/L309D/H433K/N434Y	8.45	
Fc Fragment 17	M252Y/S254T/T256E/L309D/M428L/H433K/N434F	10.21	
Fc Fragment 18	M252Y/S254T/T256E/L309D/M428L/H433K/N434Y	6.91	
Fc Fragment 19	M252Y/S254T/T256E/L309D/Q311K/H433K/N434F	7.98	
Fc Fragment 20	M252Y/S254T/T256E/L309D/Q311K/H433K/N434Y	5.18	

Example 7. Linker Length Optimization of Exemplary Fc Fusion Molecules

[00326] This example demonstrates the linker length of exemplary Fc fusion molecules can impact the degradation of FcRn *in vitro*.

[00327] Briefly, HEK cells stably expressing FcRn-GFP were seeded and incubated overnight in IgG-depleted media at 37°C with 5% CO₂. The following day, cells were treated with experimental Fc fusion molecules in the presence or absence of human serum albumin

(HSA) at a final concentration of 100 μ M. After treatment, cells were harvested, washed with PBS, fixed, and collected for flow cytometry analysis. Viability and GFP signal were assessed using a CytoFLEX LX flow cytometer.

[00328] The residual FcRn after treatment with exemplary Fc fusion molecules is shown in **FIG. 8** and quantified in **Table 8**. The results show decreased FcRn degradation with increased linker length regardless of the exemplary albumin binding domain.

Table 8. Residual FcRn After Treatment with Exemplary Fc Fusion Molecules

Test Article	Description	Average (n=3) Residual FcRn	$\pm$ (95% CI)
Fusion Molecule 22	Fc197(KIH) – (G ₄ S) ₃ – ABD1	20	4.2
Fusion Molecule 41	Fc197(KIH) – (G ₄ S) ₆ – ABD1	31	3.9
Fusion Molecule 42	Fc197(KIH) – (G ₄ S) ₈ – ABD1	48	7.1
Fusion Molecule 43	Fc197(KIH) – (G ₄ S) ₃ – ABD1(F32A)	12	3.4
Fusion Molecule 44	Fc197(KIH) – (G ₄ S) ₆ – ABD1(F32A)	21	3.5
Fusion Molecule 45	Fc197(KIH) – (G ₄ S) ₇ – ABD1(F32A)	29	4.4
Fusion Molecule 46	Fc197(KIH) – (G ₄ S) ₈ – ABD1(F32A)	44	6.8
anti-FcRn mAb	--	25	8.8

INFORMAL SEQUENCE LISTING

Identifier	Description	Amino Acid sequence
Efgartigimod (Efgart) Fc Fragment 1 (SEQ ID NO: 1)	hlgG1_Fc_M2 52Y/S254T/T2 56E/H433K/N 434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKHFHYTQKSLSLSPG
Fc195 Fc Fragment 2 (SEQ ID NO: 2)	IgG1 Fc_M252Y/S2 54T/T256E/M 428L/H433K/ N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVLHEALKHFHYTQKSLSLSPG
Fc197 Fc Fragment 3 (SEQ ID NO: 3)	IgG1 Fc_M252Y/S2 54T/T256E/H4 33K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Efgart(H) Fc Fragment 4 (SEQ ID NO: 4)	hlgG1_Fc_M2 52Y/S254T/T2 56E/Y349C/T 366S/L368A/ Y407V/H433 K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKHFHYTQKSLSLSPG
Efgart(K) Fc Fragment 5 (SEQ ID NO: 5)	hlgG1_Fc_M2 52Y/S254T/T2 56E/S354C/T3 66W/H433K/ N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKHFHYTQKSLSLSPG
Fc197(H) Fc Fragment 6 (SEQ ID NO: 6)	hlgG1_Fc_M2 52Y/S254T/T2 56E/Y349C/T 366S/L368A/ Y407V/H433 K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Fc197(K) Fc Fragment 7 (SEQ ID NO: 7)	hlgG1_Fc_M2 52Y/S254T/T2 56E/S354C/T3 66W/H433K/ N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Fc195(H) Fc Fragment 8 (SEQ ID NO: 8)	hlgG1_Fc_M2 52Y/S254T/T2 56E/Y349C/T 366S/L368A/ Y407V/M428 L/H433K/N43 4F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLVSKLTVDKSRWQQGNVFCSCVLHEALKHFHYTQKSLSLSPG
Fc195(K) Fc Fragment 9 (SEQ ID NO: 9)	hlgG1_Fc_M2 52Y/S254T/T2 56E/S354C/T3 66W/M428L/ H433K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPCRDEL TKNQVSLWCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFCSCVLHEALKHFHYTQKSLSLSPG
HSA (SEQ ID NO: 10)	Human Serum Albumin	DAHKSEVAHRFKDLGEENFKALVLIAFAQYLQCCPFEDHVKLVNEV TEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCCA KQEPERNECFLQHKDDNPNLPRLVPRPEVDVMCTAFHDNEETFLKKY

		LYEIIARRHPYFYAPELLFFAKRYKAAFTGCCQAADKAACLLPKLDE LRDEGKASSAKQRLKCASLQKFGERAFKAWAVARLSQRFPAEF VSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKLK ECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAEA KDVFLGMFLYEYARRHPDYSVVLRLAKTYETTLEKCCAAADPHE CYAKVFDEFKPLVEEPQNLIKQNCLEFEQLGEYKFQNALLVRYTKK VPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEYDLSVVLNQL CVLHEKTPVSDRVTKCCTESLVNRRPCFSALEVDETYVPKEFNAET FTFHADICTLSEKERQIKQTALVELVKHKPKATKEQLKAVMDDFA AFVEKCKKADDKETCFAEEGKKLVAASQAALGL
ABD1 (SEQ ID NO: 11)	Albumin binding VHH domain	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSSQGTLTVSS
ABD2 (SEQ ID NO: 12)	Albumin binding VHH domain	EVQLVESGGGLVQPGNSLRLSCAASGFTFSFGMSWVRQAPGKGLE WVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSSQGTLTVSS
G4S (SEQ ID NO: 13)	Linker	GGGGG
(G4S)7 (SEQ ID NO: 14)	Linker	GGGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGG
(G4S)3 (SEQ ID NO: 15)	Linker	GGGGSGGGSGGGG
Fc Fusion Molecule 1 (SEQ ID NO: 16)	Efgart-G4S- HSA	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSF FLYSKLTVDKSRWQQGNVSCVMHEALKFFHYTQKSLSLSPGGGGG SDAHKSEVAHRFKDLGEENFKALVLIQYLLQCCPFEDHVKLVNE VTEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCC AKQEPERNECFQHKDDNPNLRLVLRPEVDVMCTAFHDNEETFLKK YLYEIIARRHPYFYAPELLFFAKRYKAAFTGCCQAADKAACLLPKLDE ELRDEGKASSAKQRLKCASLQKFGERAFKAWAVARLSQRFPAEF EVSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKLK KECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAE AKDVFLGMFLYEYARRHPDYSVVLRLAKTYETTLEKCCAAADPH ECYAKVFDEFKPLVEEPQNLIKQNCLEFEQLGEYKFQNALLVRYTK KVPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEYDLSVVLNQL LCVLHEKTPVSDRVTKCCTESLVNRRPCFSALEVDETYVPKEFNAET FTFHADICTLSEKERQIKQTALVELVKHKPKATKEQLKAVMDDFA AAFVEKCKKADDKETCFAEEGKKLVAASQAALGL
Fc Fusion Molecule 2 (SEQ ID NO: 17)	HSA-G4S- Efgart	DAHKSEVAHRFKDLGEENFKALVLIQYLLQCCPFEDHVKLVNEV TEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCCA KQEPERNECFQHKDDNPNLRLVLRPEVDVMCTAFHDNEETFLKKY LYEIIARRHPYFYAPELLFFAKRYKAAFTGCCQAADKAACLLPKLDE LRDEGKASSAKQRLKCASLQKFGERAFKAWAVARLSQRFPAEF VSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKLK ECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAEA KDVFLGMFLYEYARRHPDYSVVLRLAKTYETTLEKCCAAADPHE CYAKVFDEFKPLVEEPQNLIKQNCLEFEQLGEYKFQNALLVRYTKK VPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEYDLSVVLNQL CVLHEKTPVSDRVTKCCTESLVNRRPCFSALEVDETYVPKEFNAET FTFHADICTLSEKERQIKQTALVELVKHKPKATKEQLKAVMDDFA AFVEKCKKADDKETCFAEEGKKLVAASQAALGLGGGSDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYK CKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT

		CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTV DKSRWQQGNVFSOSVMHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 3 (SEQ ID NO: 18)	Efgart-(G4S)- HSA	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSOSVMHEALKFHYTQKSLSLSPGGGGG SGGGGSGGGGSGGGGSGGGGSGGGGSGGGGSDAHKSEVAHRFKDLG EENFKALVLIQFAQYLQCCPFEDHVKLVNEVTEFAKTCVADESAEN CDKSLHTLFGDKLCTVATLRETYGEMADCCAKQEPERNECFQHKD DNPNLRLVRPEVDMCTAFHDNEETFLKKYLYEIAARRHPYFYAPE LLFFAKRYKAAFTTECCQAADKAACLLPKLDELDEGKASSAKQRLK CASLQKFGERAFAKAWAVARLSQRFPAEFAEVSKLVTDLTKVHTEC CHGDLLECADDRADLAKYICENQDSISSKLKECKEPLLEKSHCIA EVENDEMPADLPSLAADFVESKDVCKNYAEAKDVFGLMFLYEYARR HPDYSVVLRLAKTYETTLKCCAAADPHECYAKVFDEFKPLVEE PQNLIKQNCLEFEQLGEYKFQNALLVRYTKKVPQVSTPTLVEVSRN LGKVGSKCKHPEAKRMPCAEDYLSVVLNQLCVLHEKTPVSDRVT CCTESLVNRRPCFSALEVDETYVPKEFNAETFTFHADICTLSEKER QIKKQATALVELVKHKPKATKEQLKAVMDDFAAFVEKCKKADKETC FAEEGKKLVAASQAALGL
Fc Fusion Molecule 4 (SEQ ID NO: 19)	HSA-(G4S)- Efgart	DAHKSEVAHRFKDLGGEENFKALVLIQFAQYLQCCPFEDHVKLVNEV TEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCCA KQEPERNECFQHKDDNPNLRLVRPEVDMCTAFHDNEETFLKKY LYEIAARRHPYFYAPELLFFAKRYKAAFTTECCQAADKAACLLPKLDE LRDEGKASSAKQRLKASLQKFGERAFAKAWAVARLSQRFPAEFAE VSKLVTDLTKVHTECHGDLLECADDRADLAKYICENQDSISSKLK ECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAEA KDVFLGMFLYEYARRHPDYSVVLRLAKTYETTLKCCAAADPHE CYAKVFDEFKPLVEEPQNLIKQNCLEFEQLGEYKFQNALLVRYTKK VPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQL CVLHEKTPVSDRVTCCCTESLVNRRPCFSALEVDETYVPKEFNAET FTFHADICTLSEKERQIKKQATALVELVKHKPKATKEQLKAVMDDFA AFVEKCKKADDKETCFAEEGKKLVAASQAALGLGGGGSGGGGSGGG SGGGGSGGGGSGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFP PKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTK PREEQYNSTYRVVSVLTVLHQDWLNQKEYCKVSNKALPAPIEKTISK AKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWE SNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSOSVM HEALKFHYTQKSLSLSPG
Fc Fusion Molecule 5 (SEQ ID NO: 20)	ABD1-G4S- Efgart	EVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGTLVTVSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSD IAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNV FOSVMHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 6 (SEQ ID NO: 21)	Efgart-G4S- ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSOSVMHEALKFHYTQKSLSLSPGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKG EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGTLVTVSS
Fc Fusion Molecule 7 (SEQ ID NO: 22)	ABD1- (G4S)-Efgart	EVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGTLVTVSSGGGGSGGGGSGGGGSDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK

		FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 8 (SEQ ID NO: 23)	Efgart-(G4S)-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPGGGGGSGGGGSGGGGSEVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGT LVTVSS
Fc Fusion Molecule 9 (SEQ ID NO: 24)	ABD1-G4S-Efgart(KIH)	EVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPEWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGT LVTVSSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPRDELTKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 10 (SEQ ID NO: 25)	Efgart(KIH)-G4S-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPRDELTKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPGGGGGSEVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPEWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGT LVTVSS
Fc Fusion Molecule 11 (SEQ ID NO: 26)	ABD1-(G4S)3-Efgart(KIH)	EVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPEWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGT LVTVSSGGGGSGGGGSGGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPRDELTKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 12 (SEQ ID NO: 27)	Efgart(KIH)-(G4S)3-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPRDELTKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFCSCVMHEALKFHYTQKSLSLSPGGGGGSGGGGSGGGGSEVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGT LVTVSS
Fc Fusion Molecule 13 (SEQ ID NO: 28)	HSA-G4S-Fc197	DAHKSEVAHRFKDLGEENFKALVLIAFAQYLQQCFEDHVKLVNEVTEFAKTCVADESAENCCKSLHTLFGDKLCTVATLRETYGEMADCCA KQEPERNECF LQHKDDNPNLRLVRPEVDMCTAFHDNEETF LKKYLYEIAARRHPYFYAPELLFFAKRYKAAFT ECCCQAADKAACLLPKLDEL RDEGKASSAKQRLKCASLQKFGERAFKAWAVARLSQRFPKAEFAE VSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKLK ECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVKCNAYAEAKDVFLGMFLYEYARRHPDYSVVL LRLAKTYETTLEKCCAAADPHECYAKVFDEFKPLVEEPQNLIKQNC ELFQ LGEYKFQNALLVRYTKKVPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQLCVLHEKTPVSDRVT KCCTESLVNRRPCFSALEVDETYVPKEFNAETFTFHADICTLSEKERQIKQTALVELVKHKPKATKEQLKAVMDDFAAFVEKCKKADDKETCFAEEGKKLVAAASQAALGLGGGSDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT

		CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTV DKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 14 (SEQ ID NO: 29)	Fc197-G4S- HSA	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SDAHKSEVAHRFKDLGEENFKALVLIFAFYQLQQCPFEDHVKLVNE VTEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCC AKQEPERNECFLQHKDDNPNLPRLVRPEVDVMCTAFHDNEETFLKK YLYEIIARRHPYFYAPELFFAKRYKAAFTTECCQAADKAACLLPKLD ELRDEGKASSAKQRLKCASLQKFGERAFKAWAVARLSQRFPAEFA EVSKLVTDLTKVHTECCGDLLECADDRADLAKYICENQDSISSKL KECCEKPLLEKSHCIAEVENDEMPADLP SLAADFVESKDVCKNYAE AKDVFLGMFLYFYARRHPDYSVVLRLAKTYETTLKCCAAADPH ECYAKVFDEFKPLVEEPQNLIKONCELFQQLGEYKFQNALLVRYTK KVPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQ LCVLHEKTPVSDRVTKCTESLVNRRPCFSALEVDETYVPKEFNAE TFTFHADICTLSEKERQIKQTALVELVKHKPKATKEQLKAVMDDF AAFVEKCCKADDKETCFAEEGKKLVAASQAALGL
Fc Fusion Molecule 15 (SEQ ID NO: 30)	Fc197-G4S- ABD2	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SEVQLVESGGGLVQPGNSLRSLSCAASGFTFSSFGMSWVRQAPGKGL EWWSSISGSGSDTLYADSVKGRFTISRDNAKTTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGTLLVTVSS
Fc Fusion Molecule 16 (SEQ ID NO: 31)	Fc197-G4S- ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SEVQLLES GGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWWSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGTLLVTVSS
Fc Fusion Molecule 17 (SEQ ID NO: 32)	Fc197-3G4S- ABD2	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SGGGGSGGGGSEVQLVESGGGLVQPGNSLRSLSCAASGFTFSSFGMS WVRQAPGKGLEWVSSISGSGSDTLYADSVKGRFTISRDN AKTTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGTLLVTVSS
Fc Fusion Molecule 18 (SEQ ID NO: 33)	Fc197-3G4S- ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SGGGGSGGGGSEVQLLES GGGLVQPGGSLRLSCAASGFTFRSFGMS WVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGTLLVTVSS
Fc Fusion Molecule 19 (SEQ ID NO: 34)	Fc197(KIH)- G4S-ABD2	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQGNVFSCSVMHEALKYHYTQKSLSLSPGGGGG SEVQLVESGGGLVQPGNSLRSLSCAASGFTFSSFGMSWVRQAPGKGL EWWSSISGSGSDTLYADSVKGRFTISRDN AKTTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGTLLVTVSS

Fc Fusion Molecule 20 (SEQ ID NO: 35)	Fc197(KIH)- G4S-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVCTLPSPRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPGGGGG SEVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSSIISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 21 (SEQ ID NO: 36)	Fc197(KIH)- (G4S)3-ABD2	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVCTLPSPRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPGGGGG SGGGSGGGGSEVQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMS WVRQAPGKGLEWVSSIISGSGSDTLYADSVKGRFTISRDNKTTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 22 (SEQ ID NO: 37)	Fc197(KIH)- (G4S)3-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVCTLPSPRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSF FLVSKLTVDKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPGGGGG SGGGSGGGGSEVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMS WVRQAPGKGP EWVSSIISGSGSDTLYADSVKGRFTISRDN SKNTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 23 (SEQ ID NO: 38)	ABD2-G4S- Fc197	EVQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLE WVSSIISGSGSDTLYADSVKGRFTISRDNKTTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYCKKVSNAKALPA PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSD IAVEWESNGQPENNYKTTPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCVMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 24 (SEQ ID NO: 39)	ABD1-G4S- Fc197	EVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP WVSSIISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYCKKVSNAKALPA PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSD IAVEWESNGQPENNYKTTPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCVMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 25 (SEQ ID NO: 40)	ABD2- (G4S)3-Fc197	EVQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLE WVSSIISGSGSDTLYADSVKGRFTISRDNKTTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSGGGGSGGGGSDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYK CKVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT CLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSFFLYSKLTV DKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 26 (SEQ ID NO: 41)	ABD1- (G4S)3-Fc197	EVQLLESGLLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP WVSSIISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSGGGGSGGGGSDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYK CKVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT CLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSDGSFFLYSKLTV DKSRWQQGNVFCSCVMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 27 (SEQ ID NO: 42)	ABD2-G4S- Fc197(KIH)	EVQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLE WVSSIISGSGSDTLYADSVKGRFTISRDNKTTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV

		HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLSCAVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSFFLVSKLTVDKSRWQQGNV FSCSVMEALKYHYTQKSLSLSPG
Fc Fusion Molecule 28 (SEQ ID NO: 43)	ABD1-G4S- Fc197(KIH)	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGTLTIVSSGGGGSDKHTCTCPPEPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLSCAVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSFFLVSKLTVDKSRWQQGNV FSCSVMEALKYHYTQKSLSLSPG
Fc Fusion Molecule 29 (SEQ ID NO: 44)	ABD2- (G4S)3- Fc197(KIH)	EVQLVESGGGLVQPGNSLRSLCAASGFTFSSFGMSWVRQAPGKGLE WVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGTLTIVSSGGGGSGGGSGGGGSDKHTCTCP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYK CKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSL CAVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSFFLVSKLTVDKSRWQQGNV FSCSVMEALKYHYTQKSLSLSPG
Fc Fusion Molecule 30 (SEQ ID NO: 45)	ABD1- (G4S)3- Fc197(KIH)	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGTLTIVSSGGGGSGGGSGGGGSDKHTCTCP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYK CKVSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSL CAVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSFFLVSKLTVDKSRWQQGNV FSCSVMEALKYHYTQKSLSLSPG
Fc Fusion Molecule 31 (SEQ ID NO: 46)	HSA-G4S- Fc195	DAHKSEVAHRFKDLGEENFKALVLIIFAQYLQCCPFEDHVKLVNEV TEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCCA KQEPERNECFLQHKDDNPPLRLVRPEVDMCTAFHDNEETFLKKY LYEIAARRHPYFYAPELLFFAKRYKAAFTCECCQAADKAACLLPKLDE LRDEGKASSAKQRLKCASLQKFGERAFAKAWAVARLSQRFPAEFAE VSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKLK ECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAEA KDVFLGMFLYFYARRHPDYSVVLRLAKTYETTLEKCCAAADPHE CYAKVFDEFKPLVEEPQNLIKQNCLEFQELGEYKFQNALLVRYTK VPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQL CVLHEKTPVSDRVTKCCTESLVNRRPCFSALEVDETYVPKEFNAET FTFHADICTLSEKERQIKKQALVELVHKPKATKEQLKAVMDDEFA AFVEKCKKADDKETCFAEEGKKLVAAASQAALGLGGGGSDKHTCTCP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYK CKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT CLVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVLHEALKFHYTQKSLSLSPG
Fc Fusion Molecule 32 (SEQ ID NO: 47)	Fc195-G4S- HSA	DKHTCTCPPEPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPDI IAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNV FSCSVLHEALKFHYTQKSLSLSPGGGGG SDAHKSEVAHRFKDLGEENFKALVLIIFAQYLQCCPFEDHVKLVNE VTEFAKTCVADESAENCDKSLHTLFGDKLCTVATLRETYGEMADCC AKQEPERNECFLQHKDDNPPLRLVRPEVDMCTAFHDNEETFLKK YLYEIAARRHPYFYAPELLFFAKRYKAAFTCECCQAADKAACLLPKLD ELRDEGKASSAKQRLKCASLQKFGERAFAKAWAVARLSQRFPAEFA EVSKLVTDLTKVHTECCHGDLLECADDRADLAKYICENQDSISSKL KECCEKPLLEKSHCIAEVENDEMPADLPSLAADFVESKDVCKNYAE AKDVFLGMFLYFYARRHPDYSVVLRLAKTYETTLEKCCAAADPH ECYAKVFDEFKPLVEEPQNLIKQNCLEFQELGEYKFQNALLVRYTK

		KVPQVSTPTLVEVSRNLGKVGSKCKHPEAKRMPCAEDYLSVVLNQ LCVLHEKTPVSDRVTKCCTESLVNRRPCFSALEVDETYVPKEFNAE TFTFHADICTLSEKERQIKKQ TALVELVKHKPKATKEQLKAVMDDF AAFVEKCKKADDKETCF AE EGKKLVAASQAALGL
Fc Fusion Molecule 33 (SEQ ID NO: 48)	Fc195(KIH)- G4S-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQGNVFCSVLHEALKFH Y TQKSLSLSPGGGGG SEVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 34 (SEQ ID NO: 49)	Fc195(KIH)- (G4S)3-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPPSRDEL TKNQVSLSCAVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLVSKLTVDKSRWQQGNVFCSVLHEALKFH Y TQKSLSLSPGGGGG SGGGGSGGGGSEVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMS WVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 35 (SEQ ID NO: 50)	ABD1-G4S- Fc195	EVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCKVSNKALPA PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSD IAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVLHEALKFH Y TQKSLSLSPG
Fc Fusion Molecule 36 (SEQ ID NO: 51)	ABD1-G4S- Fc195(KIH)	EVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSDKTHTCPPCPAPELLGGP SVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEV HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCKVSNKALPA PIEKTISKAKGQPREPQVCTLPPSRDELTKNQVSLSCAVKGFYPSD IAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNV FSCSVLHEALKFH Y TQKSLSLSPG
Fc Fusion Molecule 37 (SEQ ID NO: 52)	Fc195-G4S- ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSVLHEALKFH Y TQKSLSLSPGGGGG SEVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT AVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 38 (SEQ ID NO: 53)	Fc195-(G4S)3- ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQD WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSF FLYSKLTVDKSRWQQGNVFCSVLHEALKFH Y TQKSLSLSPGGGGG SGGGGSGGGGSEVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMS WVRQAPGKGP EWVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYL QMNSLRPEDTAVYYCTIGGSLSRSSQGT LVT VSS
Fc Fusion Molecule 39 (SEQ ID NO: 54)	ABD1- (G4S)3-Fc195	EVQLLES G GGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPE WVSSISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTA VYYCTIGGSLSRSSQGT LVT VSSGGGGSGGGGSGGGGSDKTHTCPP CPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVK FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYK CKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLT CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTV DKSRWQQGNVFCSVLHEALKFH Y TQKSLSLSPG

Fc Fusion Molecule 40 (SEQ ID NO: 55)	ABD1-(G4S)3-Fc195(KIH)	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGPEWVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGTIVTVSSGGGGSGGGSGGGGSKDTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVCTLPSSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLVSKLTVDKSRWQQGNVFSCSVLHEALKFHYTQKSLSLSPG
WT human IgG1 Fc (SEQ ID NO: 56)	Human IGH1 (221-446)	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALHNHYTQKSLSLSPG
Fc Fragment 10 (SEQ ID NO: 57)	IgG1 Fc_M252Y/S2 54T/T256E/M 428L/H433K/N434Y	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALKYHYTQKSLSLSPG
Fc Fragment 11 (SEQ ID NO: 58)	IgG1 Fc_M252Y/S2 54T/T256E/M 428L/N434F	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALHFHYTQKSLSLSPG
Fc Fragment 12 (SEQ ID NO: 59)	IgG1 Fc_M252Y/S2 54T/T256E/H4 33R/N434Y	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALRYHYTQKSLSLSPG
Fc Fragment 13 (SEQ ID NO: 60)	IgG1 Fc_M252Y/S2 54T/T256E/H4 33R/N434F	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALRFHYTQKSLSLSPG
Fc Fragment 14 (SEQ ID NO: 61)	IgG1 Fc_M252Y/S2 54T/T256E/M 428L/H433R/N434F	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALRFHYTQKSLSLSPG
Fc Fragment 15 (SEQ ID NO: 62)	IgG1 Fc_M252Y/S2 54T/T256E/L3 09D/H433K/N434F	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALKFHYTQKSLSLSPG
Fc Fragment 16 (SEQ ID NO: 63)	IgG1 Fc_M252Y/S2 54T/T256E/L3 09D/H433K/N434Y	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALKYHYTQKSLSLSPG
Fc Fragment 17 (SEQ ID NO: 64)	IgG1 Fc_M252Y/S2 54T/T256E/L3 09D/M428L/H433K/N434F	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALKFHYTQKSLSLSPG
Fc Fragment 18	IgG1 Fc_M252Y/S2	DKTHTCPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSLKLTVDKSRWQQGNVFSCSVLHEALKYHYTQKSLSLSPG

(SEQ ID NO: 65)	54T/T256E/L3 09D/M428L/H 433K/N434Y	WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFSCSVLMHEALKYHYTQKSLSLSPG
Fc Fragment 19 (SEQ ID NO: 66)	IgG1 Fc_M252Y/S2 54T/T256E/L3 09D/Q311K/H 433K/N434F	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVDHDK WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFSCSVLMHEALKYHYTQKSLSLSPG
Fc Fragment 20 (SEQ ID NO: 67)	IgG1 Fc_M252Y/S2 54T/T256E/L3 09D/Q311K/H 433K/N434Y	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDV SHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVDHDK WLNQKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDEL TKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPVLDSGGSF FLYSKLTVDKSRWQQGNVFSCSVLMHEALKYHYTQKSLSLSPG
Fc Fusion Molecule 41 (SEQ ID NO: 68)	Fc197(KIH)- (G4S)6-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGS LSRSSQGTIVTVSS
Fc Fusion Molecule 42 (SEQ ID NO: 69)	Fc197(KIH)- (G4S)8-ABD1	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGS LSRSSQGTIVTVSS
Fc Fusion Molecule 43 (SEQ ID NO: 70)	Fc197(KIH)- (G4S)3-ABD1 (F32A)	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGS LSRSSQGTIVTVSS
Fc Fusion Molecule 44 (SEQ ID NO: 71)	Fc197(KIH)- (G4S)6-ABD1 (F32A)	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGS LSRSSQGTIVTVSS
Fc Fusion Molecule 45 (SEQ ID NO: 72)	Fc197(KIH)- (G4S)7-ABD1 (F32A)	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYC TIGGSLSRSSQGTIVTVSS
Fc Fusion Molecule 46 (SEQ ID NO: 73)	Fc197(KIH)- (G4S)8-ABD1 (F32A)	DKTHTCPPCPAPELLGGPSVFLFPPKPKDTLYITREPEVTCVVVDVSHEDP EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNQKEYKCK VSNKALPAPIEKTISKAKGQPREPQVCTLPSPSRDELTKNQVSLCAVKGFI PSDIAVEWESNGQPENNYKTTPVLDSGGSFFLVSKLTVDKSRWQQGNVFS CSVMHEALKYHYTQKSLSLSPGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG SEVQLLESQGGGLVQPGGSLRLSCAASGFTFRSFGMSWVRQAPGKGP EWVSS ISGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGS LSRSSQGTIVTVSS

(G ₄ S) ₆ (SEQ ID NO: 74)	Linker	GGGGSGGGSGGGSGGGSGGGSGGGGS
(G ₄ S) ₈ (SEQ ID NO: 75)	Linker	GGGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGGS
ABD1 (F32A) (SEQ ID NO: 76)	ABD1 with F32A mutation	EVQLLESGGGLVQPGGSLRLSCAASGFTFRSAGMSWVRQAPGKGP EWVSSI SGSGSDTLYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTAVYYCTIGGSL SRSSQGTILTVTVSS

ENUMERATED EMBODIMENTS

[00329] Embodiment 1. A Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising from N-terminus to C-terminus or C-terminus to N-terminus:

[00330] a) a Fc fragment comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 1-9;

[00331] b) a linker; and

[00332] c) an albumin or an albumin binding domain comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 10-12.

[00333] Embodiment 2. The Fc fusion molecule of Embodiment 1, wherein the linker comprises a sequence according to any one of SEQ ID NOs: 13-15.

[00334] Embodiment 3. The Fc fusion molecule of any one of Embodiments 1-2, wherein the Fc fragment is derived from an IgG1, IgG2 or IgG4 immunoglobulin domain.

[00335] Embodiment 4. The Fc fusion molecule of any one of Embodiments 1-2, wherein the Fc fragment is derived from an IgG1 immunoglobulin domain.

[00336] Embodiment 5. The Fc fusion molecule of any one of Embodiments 1-2, wherein the Fc fragment is derived from an IgG2 immunoglobulin domain.

[00337] Embodiment 6. The Fc fusion molecule of any one of Embodiments 1-2, wherein the Fc fragment is derived from an IgG4 immunoglobulin domain.

[00338] Embodiment 7. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10.

[00339] Embodiment 8. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 14, and

the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10.

[00340] Embodiment 9. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00341] Embodiment 10. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 1, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00342] Embodiment 11. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 4 or SEQ ID NO: 5, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00343] Embodiment 12. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 4 or SEQ ID NO: 5, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00344] Embodiment 13. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10.

[00345] Embodiment 14. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12.

[00346] Embodiment 15. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00347] Embodiment 16. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12.

[00348] Embodiment 17. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 3, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00349] Embodiment 18. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12.

[00350] Embodiment 19. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00351] Embodiment 20. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 12.

[00352] Embodiment 21. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 6 or SEQ ID NO: 7, the linker comprises a sequence according to

SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00353] Embodiment 22. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 10.

[00354] Embodiment 23. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 8 or SEQ ID NO: 9, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00355] Embodiment 24. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 8 or SEQ ID NO: 9, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00356] Embodiment 25. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 13, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00357] Embodiment 26. The Fc fusion molecule of any one of Embodiments 1-6, wherein the Fc fragment comprises a sequence having at least 80% sequence identity to the amino acid sequence to SEQ ID NO: 2, the linker comprises a sequence according to SEQ ID NO: 15, and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to the amino acid sequence according to SEQ ID NO: 11.

[00358] Embodiment 27. The Fc fusion molecule of any one of Embodiments 1-26, further comprising a second Fc fragment comprising a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 1-9.

[00359] Embodiment 28. A Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising a sequence having at least 80% sequence identity to any one of SEQ ID NOs: 16-55.

[00360] Embodiment 29. The Fc fusion molecule of any one of Embodiments 1-28, wherein the Fc fusion molecule binds to FcRn with a KD of less than or equal to about 1×10^{-8} M, at pH 6.0 or pH 7.4 as measured by surface plasmon resonance (SPR).

[00361] Embodiment 30. The Fc fusion molecule of any one of Embodiments 1-29, wherein the Fc fusion molecule comprises a half-life at least 2 fold longer as compared to a Fc fusion molecule not comprising an albumin or an albumin binding domain.

[00362] Embodiment 31. The Fc fusion molecule of Embodiment 30, wherein the albumin or the albumin domain comprises a sequence having at least 80% sequence identity to the amino acid sequence of any one of SEQ ID NOs: 10-12 any one of SEQ ID NOs: 10-12.

[00363] Embodiment 32. A pharmaceutical composition, comprising the Fc fusion molecule of any one of Embodiments 1-31 and a pharmaceutically acceptable carrier.

[00364] Embodiment 33. A method of treating a disease or disorder in a patient in need thereof, the method comprising administering to the patient an effective amount of the Fc fusion molecule of any one of Embodiments 1-31 or a pharmaceutical composition of Embodiment 32.

[00365] Embodiment 34. The method of Embodiment 33, wherein the disease or disorder is an autoimmune disease.

[00366] Embodiment 35. The method of Embodiment 33 or 34, wherein the disease or disorder is generalized myasthenia gravis (gMG), chronic inflammatory demyelinating polyneuropathy, myositis, autoimmune encephalitis, myelin oligodendrocyte glycoprotein antibody disorders (MOG-antibody disorder), membranous nephropathy, lupus nephritis, thyroid eye disease, warm autoimmune hemolytic anemia, hemolytic disease of the fetus and newborn, idiopathic thrombocytopenic purpura, primary Sjogren's Syndrome, systemic lupus erythematosus, rheumatoid arthritis, bullous pemphigoid, pemphigus foliaceus, pemphigus vulgaris, or cutaneous lupus erythematosus.

[00367] Embodiment 36. The method of Embodiment 33 or 34, wherein the method reduces disease severity in a patient and wherein disease severity is assessed by an gMG Disease Severity Outcome Measure.

[00368] Embodiment 37. A method for treating a pathology associated with elevated levels of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the isolated Fc fragment of any one of Embodiments 1-31 or a pharmaceutical composition of Embodiment 32.

[00369] Embodiment 38. A method of reducing biological activity of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecule of any one of Embodiments 1-31 or a pharmaceutical composition of Embodiment 32.

[00370] Embodiment 39. The method of Embodiment 38, wherein the disease is an autoimmune disease.

[00371] Embodiment 40. A method of preventing a disorder in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the Fc fusion molecule of any one of Embodiments 1-31 or a pharmaceutical composition of Embodiment 32; wherein the disorder is an unwanted side-effect of a therapeutic antibody.

EQUIVALENTS AND SCOPE

[00372] All publications, patent applications, patents, and other references mentioned herein are incorporated by reference in their entirety. In addition, the materials, methods, and examples are illustrative only and not intended to be limiting. Unless otherwise defined, all technical and scientific terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present invention, suitable methods and materials are described herein.

CLAIMS

1. An Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising from N-terminus to C-terminus or C-terminus to N-terminus:
 - a) an Fc fragment comprising amino acid substitutions (i) N434Y and (ii) H433R or H433K as compared to an amino acid sequence set forth in SEQ ID NO: 56;
 - b) a linker; and
 - c) an albumin or an albumin binding domain.
2. The Fc fusion molecule of claim 1, wherein the Fc fragment comprises amino acid substitutions N434Y and H433R.
3. The Fc fusion molecule of claim 1, wherein the Fc fragment comprises amino acid substitutions N434Y and H433K.
4. An Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising from N-terminus to C-terminus or C-terminus to N-terminus:
 - a) an Fc fragment comprising amino acid substitutions M428L and N434F as compared to an amino acid sequence set forth in SEQ ID NO: 56;
 - b) a linker; and
 - c) an albumin or an albumin binding domain.
5. The Fc fusion molecule of claim 4, wherein the Fc fragment further comprises amino acid substitution H433K.
6. An Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising from N-terminus to C-terminus or C-terminus to N-terminus:
 - a) an Fc fragment comprises amino acid substitutions H433R and N434F as compared to an amino acid sequence set forth in SEQ ID NO: 56.
 - b) a linker; and
 - c) an albumin or an albumin binding domain.
7. The Fc fusion molecule of claim 6, wherein the Fc fragment further comprises amino acid substitution M428L.

8. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fragment further comprises amino acid substitutions M252Y, S254T, and T256E.
9. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 1-9 or 57-67.
10. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9 or 57-67.
11. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fusion molecule comprises an albumin.
12. The Fc fusion molecule of claim 11, wherein the albumin comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 10.
13. The Fc fusion molecule of claim 11 or 12, wherein the albumin comprises an amino acid sequence identical to SEQ ID NO: 10.
14. The Fc fusion molecule of any one of claims 1-10, wherein the Fc fusion molecule comprises an albumin binding domain.
15. The Fc fusion molecule of claim 14, wherein the albumin binding domain comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to SEQ ID NO: 11 or SEQ ID NO: 12.
16. The Fc fusion molecule of claim 14 or 15, wherein the albumin binding domain comprises an amino acid sequence identical to SEQ ID NO: 11 or SEQ ID NO: 12.

17. The Fc fusion molecule of any one of the preceding claims, wherein the linker comprises glycine and serine.
18. The Fc fusion molecule of claim 17, wherein the linker comprises one or more repeating units of GGGGS (SEQ ID NO: 13).
19. The Fc fusion molecule of claim 17 or 18, wherein the linker comprises at least 2, at least 3, at least 4, at least 5, at least 6, at least 7, or at least 8 repeating units of GGGGS (SEQ ID NO: 13).
20. The Fc fusion molecule of any one of claims 17-19, wherein the linker comprises 6 repeating units of GGGGS (SEQ ID NO: 13).
21. The Fc fusion molecule of any one of claims 17-19, wherein the linker comprises 8 repeating units of GGGGS (SEQ ID NO: 13).
22. The Fc fusion molecule of any one of the preceding claims, wherein the linker comprises a sequence according to any one of SEQ ID NOs: 13-15.
23. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fragment is derived from an IgG1, IgG2 or IgG4 immunoglobulin domain.
24. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fragment is derived from an IgG1 immunoglobulin domain.
25. The Fc fusion molecule of any one of claims 1-23, wherein the Fc fragment is derived from an IgG2 immunoglobulin domain.
26. The Fc fusion molecule of any one of claims 1-23, wherein the Fc fragment is derived from an IgG4 immunoglobulin domain.
27. The Fc fusion molecule of any one of the preceding claims, wherein

- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 1,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 10.
28. The Fc fusion molecule of any one of claims 1-26, wherein the
- a) Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 1,
 - b) the linker comprises a sequence of SEQ ID NO: 14, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 10.
29. The Fc fusion molecule of any one of claims 1-26,
- a) wherein the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 1,
 - b) the linker comprises a sequence of SEQ ID NO: 13,
 - c) and the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
30. The Fc fusion molecule of any one of claims 1-26,
- a) wherein the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 1,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
31. The Fc fusion molecule of any one of claims 1-26,
- a) wherein the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 4 or SEQ ID NO: 5,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.

32. The Fc fusion molecule of any one of claims 1-26, wherein the
- a) Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 4 or SEQ ID NO: 5,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
33. The Fc fusion molecule of any one of claims 1-26, wherein the
- a) Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 3,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 10.
34. The Fc fusion molecule of any one of claims 1-26, wherein the
- a) Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 3,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 12.
35. The Fc fusion molecule of any one of claims 1-26, wherein the
- a) Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 3,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
36. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 3,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and

- c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 12.
37. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 3,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
38. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 6 or SEQ ID NO: 7,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 12.
39. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 6 or SEQ ID NO: 7,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
40. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 6 or SEQ ID NO: 7,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 12.
41. The Fc fusion molecule of any one of claims 1-26, wherein

- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 6 or SEQ ID NO: 7,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
42. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 2,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 10.
43. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 8 or SEQ ID NO: 9,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
44. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 8 or SEQ ID NO: 9,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
45. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 2,
 - b) the linker comprises a sequence of SEQ ID NO: 13, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.

46. The Fc fusion molecule of any one of claims 1-26, wherein
- a) the Fc fragment comprises a sequence having at least 80% sequence identity to SEQ ID NO: 2,
 - b) the linker comprises a sequence of SEQ ID NO: 15, and
 - c) the albumin or albumin binding domain comprises a sequence having at least 80% sequence identity to SEQ ID NO: 11.
47. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fusion molecule comprises, from N-terminus to C-terminus, the Fc fragment, the linker, and the albumin or the albumin binding domain.
48. The Fc fusion molecule of any one of claims 1-46, wherein the Fc fusion molecule comprises, from C-terminus to N-terminus, the Fc fragment, the linker, and the albumin or the albumin binding domain.
49. An Fc fusion molecule that binds neonatal Fc receptor (FcRn) comprising a sequence having at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% sequence identity to any one of SEQ ID NOs: 16-55 or 68-73.
50. The Fc fusion molecule of claim 42, wherein the Fc fusion molecule comprises a sequence identical to any one of SEQ ID NOs: 16-55 or 68-73.
51. The Fc fusion molecule of any one of the previous claims, wherein the Fc fusion molecule comprises an amino acid sequence having at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% sequence identity to any one of SEQ ID NOs: 28-55 or 68-73.
52. The Fc fusion molecule of any one of the previous claims, wherein the Fc fusion molecule comprises an amino acid sequence identical to any one of SEQ ID NOs: 28-55 or 68-73.

53. The Fc fusion molecule of any one of the preceding claims, further comprising a second Fc fragment.

54. The Fc fusion molecule of claim 53, wherein the second Fc fragment comprises the same amino acid substitutions as the first Fc fragment.

55. The Fc fusion molecule of claim 54, wherein the first Fc fragment and the second Fc fragment are further modified to promote Fc heterodimerization.

56. The Fc fusion molecule of claim 54 or 55, wherein the first Fc fragment and the second Fc fragment further comprise one or more amino acid substitutions selected from Y349C, S354C, T366S, T366W, T366Y, L368A, Y407T, Y407V.

57. The Fc fusion molecule of any one of claims 54-56, wherein

- a) the first Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid substitutions S354C and T366W; or
- b) the second Fc fragment further comprises amino acid substitutions Y349C, T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitutions S354C and T366W; or
- c) the first Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the second Fc fragment further comprises amino acid substitution T266W; or
- d) the second Fc fragment further comprises amino acid substitutions T366S, L368A, and Y407V, and the first Fc fragment further comprises amino acid substitution T266W.

58. The Fc fusion molecule of any one of claims 53-57, wherein the second Fc fragment comprises an amino acid sequence at least 80%, at least 85%, at least 90%, at least 95%, at least 96%, at least 97%, at least 98%, or at least 99% identical to any one of SEQ ID NOs: 1-9 or 57-67.

59. The Fc fusion molecule of any one of claims 53-58, wherein the second Fc fragment comprises an amino acid sequence identical to any one of SEQ ID NOs: 1-9 or 57-67.
60. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fusion molecule binds to FcRn with a K_D of less than or equal to about 1×10^{-8} M, at pH 6.0 or pH 7.4 as measured by surface plasmon resonance (SPR).
61. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fusion molecule comprises a half-life at least 2-fold longer as compared to an Fc fusion molecule not comprising an albumin or an albumin binding domain.
62. The Fc fusion molecule of any one of the preceding claims, wherein the Fc fusion molecule reduces IgG level to less than 50%, to less than 40%, to less than 30%, or to less than 25%.
63. A pharmaceutical composition, comprising the Fc fusion molecule of any one of claims 1-62, and a pharmaceutically acceptable carrier.
64. A method of treating a disease or disorder in a patient in need thereof, the method comprising administering to the patient an effective amount of the Fc fusion molecule of any one of claims 1-62 or a pharmaceutical composition of claim 63.
65. The method of claim 64, wherein the disease or disorder is an autoimmune disease.
66. The method of claim 64 or 65, wherein the disease or disorder is generalized myasthenia gravis (gMG), chronic inflammatory demyelinating polyneuropathy, myositis, autoimmune encephalitis, myelin oligodendrocyte glycoprotein antibody disorders (MOG-antibody disorder), membranous nephropathy, lupus nephritis, thyroid eye disease, warm autoimmune hemolytic anemia, hemolytic disease of the fetus and newborn, idiopathic thrombocytopenic purpura, primary Sjogren's Syndrome, systemic lupus erythematosus, rheumatoid arthritis, bullous pemphigoid, pemphigus foliaceus, pemphigus vulgaris, or cutaneous lupus erythematosus.

67. The method of any one of claims 64-66, wherein the method reduces disease severity in a patient and wherein disease severity is assessed by an gMG Disease Severity Outcome Measure.

68. A method for treating a pathology associated with elevated levels of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount the Fc fragment of any one of claims 1-62 or a pharmaceutical composition of claim 63.

69. A method of reducing biological activity of an IgG in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecule of any one of claims 1-62 or a pharmaceutical composition of claim 63.

70. A method of reducing IgG levels in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecule of any one of claims 1-62 or a pharmaceutical composition of claim 63.

71. The method of claim 69 or 70, wherein the Fc fusion molecule reduces IgG level by 50% within 2, days, 3 days, 5 days, or 7 days of the administration.

72. The method of claim 69 or 70, wherein the Fc fusion molecule reduces IgG level by 75% within 2, days, 3 days, 5 days, or 7 days of the administration.

73. The method of any one of the claims 68-72, wherein the administration of the Fc fusion molecule reduces IgG level to less than 50%, to less than 40%, to less than 30%, or to less than 25% for at least 5 days, 7 days, 10 days, 15 days, or 20 days post administration.

74. A method of preventing a disorder in a patient in need thereof, the method comprising administering to the patient a therapeutically effective amount of the Fc fusion molecule of any one of claims 1-62 or a pharmaceutical composition of claim 63; wherein the disorder is an unwanted side-effect of a therapeutic antibody.