WHAT IS CLAIMED IS:

Claim 1. A serum-protein-binding diabody complex comprising three polypeptide chains each comprising an N-terminus and a C-terminus, wherein:

(A) said first and second polypeptide chains are covalently bonded to one another, and each comprise, in the N-terminal to C-terminal direction, a light chain variable domain linked to a heavy chain variable domain, wherein:

(1) said light chain variable domain of said first polypeptide chain associates with said heavy chain variable domain of said second polypeptide chain to form a binding site specific for a first epitope; and

(2) said light chain variable domain of said second polypeptide chain associates with said heavy chain variable domain of said first polypeptide chain to form a binding site specific for a second epitope;

(B) said first polypeptide chain comprises a heterodimer formation driving polypeptide portion, said heterodimer formation driving polypeptide portion being positioned C-terminal to said heavy chain variable domain of said first polypeptide chain, and being an E-coil or a K-coil; wherein said E-coil is 4 heptameric repeats of EVAALEK (SEQ ID NO: 299), and said K-coil is 4 heptameric repeats of KVAALKE (SEQ ID NO: 300); and

(C) said third polypeptide chain comprises a polypeptide portion of a serum-binding protein capable of binding to said serum protein and a heterodimer formation driving polypeptide portion that is:

(1) an E-coil if said first polypeptide chain comprises an K-coil, or

(2) a K-coil if said first polypeptide chain comprises an E-coil;

wherein said heterodimer formation driving polypeptide portion of said first and third polypeptide chains are complexed together to thereby form said serum-protein-binding diabody complex, and said serum-protein-binding diabody complex is capable of simultaneously binding to said first epitope, to said second epitope and to said serum protein.

Claim 2. The serum-protein binding diabody complex of claim 1, wherein said polypeptide portion of a serum-binding protein capable of binding to said serum protein is located N-terminal to said heterodimer formation driving polypeptide portion.

Claim 3. The serum-protein binding diabody complex of claim 1, wherein said polypeptide portion of a serum-binding protein capable of binding to said serum protein is located C-terminal to said heterodimer formation driving polypeptide portion.

Claim 4. The serum-protein binding diabody complex of any of claims 1-3, wherein said serum-binding protein is an albumin binding protein.

Claim 5. The serum-protein binding diabody complex of claim 4, wherein said albumin binding protein is streptococcal protein G and said polypeptide is an albumin-binding domain (ABD) of said streptococcal protein G.

Claim 6. The serum-protein binding diabody complex of claim 5, wherein said albumin-binding domain (ABD) of said streptococcal protein G is albumin-binding domain 3 (ABD3) of protein G of Streptococcus strain G148.

Claim 7. The serum-protein binding diabody complex of claim 1, wherein said diabody exhibits an in vivo serum half-life greater than 2 hours.

Claim 8. The serum-protein binding diabody complex of any of claims 1-7, wherein said diabody binds the Natural Killer Group 2D (NKG2D) receptor, a T cell receptor (TCR) binding domain or a hapten.

Claim 9. The serum-protein binding diabody complex of claim 8, wherein said molecule additionally binds to a tumor-associated antigen.

Claim 10. The serum-protein binding diabody complex of claim 9, wherein said tumor-associated antigen is a breast cancer antigen, an ovarian cancer antigen, a prostate cancer antigen, a cervical cancer antigen, a pancreatic carcinoma antigen, a lung cancer antigen, a bladder cancer antigen, a colon cancer antigen, a testicular cancer antigen, a glioblastoma cancer antigen, an antigen associated with a B cell malignancy, an antigen associated with multiple myeloma, an antigen associated with non-Hodgkin's lymphoma, or an antigen associated with chronic lymphocytic leukemia.

Claim 11. The serum-protein binding diabody complex of claim 10, wherein said tumor-associated antigen is A33; ADAM-9; ALCAM; B1; BAGE; beta-catenin; CA125; Carboxypeptidase M; CD5; CD19; CD20; CD22; CD23; CD25; CD27; CD28; CD32B; CD36; CD40; CD45; CD46; CD56; CD79a; CD79b; CD103; CD154; CDK4; CEA; CTLA4; Cytokeratin 8; EGF-R; an Ephrin receptor; ErbB1; ErbB3; ErbB4; GAGE-1; GAGE-2; GD2; GD3; GM2; gp100; HER-2/neu; human papillomavirus-E6; human papillomavirus-E7; Integrin Alpha-V-Beta-6; JAM-3; KID3; KID31; KSA (17-1A); LUCA-2; MAGE-1; MAGE-3; MART; MUC-1; MUM-1; N-acetylglucosaminyltransferase; Oncostatin M (Oncostatin Receptor Beta); p15; PIPA; PSA; PSMA; RAAG10; ROR1; SART; sTn; TES7; the TNF-α receptor; the TNF-ß receptor; the TNF-γ receptor; the Transferrin Receptor or the VEGF receptor.

Claim 12. The serum-protein binding diabody complex of claim 11, wherein said tumor-associated antigen is HER-2/neu or CD32B.

Claim 13. A pharmaceutical composition that comprises the serum-protein binding diabody complex of any of claims 8-9, and a pharmaceutically acceptable carrier.

Claim 14. The pharmaceutical composition of claim 13 for use in the treatment of cancer.

Claim 15. The pharmaceutical composition of claim 14, wherein said use is in the treatment of breast cancer, ovarian cancer, prostate cancer, cervical cancer, pancreatic carcinoma, lung cancer, bladder cancer, colon cancer, testicular

cancer, glioblastoma cancer, a B cell malignancy, multiple myeloma, non-Hodgkin's lymphoma, or chronic lymphocytic leukemia.

WHAT IS CLAIMED IS:

Claim 1. A serum-protein binding polypeptide comprising a polypeptide portion of a serum-binding protein, said polypeptide portion being capable of binding to said serum protein, linked to an E-coil or a K-coil separator; wherein said E-coil separator is 4 heptameric repeats of EVAALEK (SEQ ID NO: 299), and sid K-coil separator is 4 heptameric repeats of KVAALKE (SEQ ID NO: 300).

Claim 2. The serum-protein binding polypeptide of claim 1, wherein said polypeptide portion of such serum-binding protein is located N-terminal to said separator

Claim 3. The serum-protein binding polypeptide of claim 1, wherein said polypeptide portion of such serum-binding protein is located C-terminal to said separator.

Claim 4. The serum-protein binding polypeptide of any of claims 1-3, wherein said serum-binding protein is an albumin binding protein.

Claim 5. The serum-protein binding polypeptide of claim 4, wherein said albumin binding protein is streptococcal protein G and said polypeptide is an albumin-binding domain (ABD) of said streptococcal protein G.

Claim 6. The serum-protein binding polypeptide of claim 5, wherein said albumin-binding domain (ABD) of said streptococcal protein G is albumin-binding domain 3 (ABD3) of protein G of Streptococcus strain G148.

Claim 7. A diabody complexed to the serum-protein binding polypeptide of any of claims 1-7, wherein said diabody comprises a first polypeptide chain and a second polypeptide chain:

(I) which first polypeptide chain comprises:

(i) a first domain comprising a binding region of a light chain variable domain of a first immunoglobulin (VL1) specific for a first epitope; and

(ii) a second domain comprising a binding region of a heavy chain variable domain of a second immunoglobulin (VH2) specific for a second epitope; and which first domain and second domains are covalently linked such that the first domain and second domain do not associate to form an epitope binding site;

(II) which second polypeptide chain comprises:

(i) a fourth domain comprising a binding region of a light chain variable domain of the second immunoglobulin (VL2); and

(ii) a fifth domain comprising a binding region of a heavy chain variable domain of the first immunoglobulin (VH1), and which fourth domain and fifth domain are covalently linked such that the fourth domain and fifth domain do not associate to form an epitope binding site;

wherein:

(A) said first domain and said fifth domain associate to form a first binding site (VL1)(VH1) that binds the first epitope;

(B) said second domain and said fourth domain associate to form a second binding site (VL2)(VH2) that binds the second epitope;

(C) at least one of said first or said second polypeptide chains of said diabody additionally comprises an E-coil or a K-coil separator; and

(D) wherein when said separator of said first or second polypeptide is an E-coil, said separator of said serum-protein binding polypeptide is a K-coil, and when said separator of said first or second polypeptide is an K-coil, said separator of said serum-protein binding polypeptide is an E-coil.

Claim 8. The complexed diabody of claim 7, wherein said diabody exhibits an in vivo serum half-life greater than 2 hours, greater than 10 hours, or greater than 20 hours.

Claim 9. The complexed diabody of any of claims 1-8, wherein said diabody binds the Natural Killer Group 2D (NKG2D) receptor, a T cell recptor (TCR) binding domain or a hapten.

Claim 10. The complexed diabody of claim 9, wherein said molecule additionally binds to a tumor-associated antigen.

Claim 11. The complexed diabody of claim 10, wherein said tumor-associated antigen is a breast cancer antigen, an ovarian cancer antigen, a prostate cancer antigen, a cervical cancer antigen, a pancreatic carcinoma antigen, a lung cancer antigen, a bladder cancer antigen, a colon cancer antigen, a testicular cancer antigen, a glioblastoma cancer antigen, an antigen associated with a B cell malignancy, an antigen associated with multiple myeloma, an antigen associated with non-Hodgkins lymphoma, or an antigen associated with chronic lymphocytic leukemia.

Claim 12. The complexed diabody of claim 11, wherein said tumor-associated antigen is A33; ADAM-9; ALCAM; B1; BAGE; beta-catenin; CA125; Carboxypeptidase M; CD5; CD19; CD20; CD22; CD23; CD25; CD27; CD28; CD32B; CD36; CD40; CD45; CD46; CD56; CD79a; CD79b; CD103; CD154; CDK4; CEA; CTLA4; Cytokeratin 8; EGF-R; an Ephrin receptor; ErbB1; ErbB3; ErbB4; GAGE-1; GAGE-2; GD2; GD3; GM2; gp100; HER-2/neu; human papillomavirus-E6; human papillomavirus-E7; Integrin Alpha-V-Beta-6; JAM-3; KID3; KID31; KSA (17-1A); LUCA-2; MAGE-1; MAGE-3; MART; MUC-1; MUM-1; N-acetylglucosaminyltransferase; Oncostatin M (Oncostatin Receptor Beta); p15; PIPA; PSA; PSMA; RAAG10; ROR1; SART; sTn; TES7; the TNF-α receptor; the TNF-ß receptor; the TNF-γ receptor; the Transferrin Receptor or the VEGF receptor.

Claim 13. The complexed diabody of claim 12, wherein said tumor-associated antigen is HER-2/neu.

Claim 14. The complexed diabody of claim 12, wherein said tumor-associated antigen is CD32B.