CLAIMS

1. A liquid antibody formulation, comprising:

(i) an anti-PD-1/HER2 bispecific antibody protein;

(ii) a buffer,

(iii) a stabilizer, and

(iv) a surfactant, wherein

the anti-PD-1/HER2 bispecific antibody protein comprises a first half antibody and a second half antibody, wherein the first half antibody comprises a first VH/VL unit specifically binding to PD-1, and the second half antibody comprises a second VH/VL unit specifically binding to HER2, wherein the first VH/VL unit comprises paired heavy chain variable region/light chain variable region sequences set forth in SEQ ID NO: 12/SEQ ID NO: 10, and the second VH/VL unit comprises paired heavy chain variable region/light chain variable region sequences set forth in SEQ ID NO: 6/SEQ ID NO: 2; and

wherein the liquid antibody formulation comprises:

(i) 42 mg/mL anti-PD-1/HER2 bispecific antibody protein;

(ii) 0.85 mg/mL histidine and 3.17 mg/mL histidine hydrochloride;

(iii) 80 mg/mL sucrose; and

(iv) 0.2 mg/mL polysorbate 80; or

the liquid antibody formulation comprises:

(i) 50 mg/mL anti-PD-1/HER2 bispecific antibody protein;

(ii) 20 mM histidine;

(iii) 50 mg/mL sorbitol; and

(iv) 0.2 mg/mL polysorbate 80; or

the liquid antibody formulation comprises:

(i) 50 mg/mL anti-PD-1/HER2 bispecific antibody protein;

(ii) 20 mM histidine;

(iii) 80 mg/mL sucrose; and

(iv) 0.2 mg/mL polysorbate 80; or

the liquid antibody formulation comprises:

(i) 50 mg/mL anti-PD-1/HER2 bispecific antibody protein;

(ii) 20 mM histidine;

(iii) 80 mg/mL trehalose; and

(iv) 0.2 mg/mL polysorbate 80; or

the liquid antibody formulation comprises:

(i) 50 mg/mL anti-PD-1/HER2 bispecific antibody protein;

(ii) 20 mM histidine;

(iii) 80 mg/mL sucrose and 1.49 mg/mL methionine; and

(iv) 0.2 mg/mL polysorbate 80;

and

wherein a pH of the liquid antibody formulation is 5.0-5.5.

2. The liquid antibody formulation according to claim 1, wherein the anti-PD-1/HER2 bispecific antibody protein comprises the first half antibody and the second half antibody, wherein the first half antibody comprises heavy chain sequences set forth in SEQ ID NO: 12 and SEQ ID NO: 14 or heavy chain sequences having at least 90%, 95%, 98% or 99% identity thereto in N to C direction and comprises light chain sequences set forth in SEQ ID NO: 10 and SEQ ID NO: 4 or light chain sequences having at least 90%, 95%, 98% or 99% identity thereto in N to C direction, and the second half antibody comprises heavy chain sequences set forth in SEQ ID NO: 6 and SEQ ID NO: 8 or heavy chain sequences having at least 90%, 95%, 98% or 99% identity thereto in N to C direction and comprises light chain sequences set forth in SEQ ID NO: 2 and SEQ ID NO: 4 or light chain sequences having at least 90%, 95%, 98% or 99% identity thereto in N to C direction.

3. The liquid antibody formulation according to any one of claims 1-2, wherein the anti-PD-1/HER2 bispecific antibody protein is recombinantly expressed in HEK293 cells or HEK293T, HEK293F or HEK293E cells obtained by modification based on HEK293 cells and in CHO cells or CHO-S, CHO-dhfr$^-$, CHO/DG44 or ExpiCHO cells obtained by modification based on CHO cells.

4. The liquid antibody formulation according to any one of claims 1-3, wherein the liquid antibody formulation is an injectant.

5. The liquid antibody formulation according to claim 4, wherein the liquid antibody formulation is for subcutaneous or intravenous injection, or for intravenous infusion.

6. The liquid antibody formulation according to any one of claims 1-5, wherein the liquid antibody formulation has a pH 5.5.

7. A solid antibody formulation obtained by solidifying the liquid antibody formulation according to any one of claims 1-6, wherein the solid formulation is in the form of lyophilized powder for injection.

8. A delivery device, comprising the liquid antibody formulation according to any one of claims 1-6 or the solid antibody formulation according to claim 7.

9. A pre-filled syringe, comprising the liquid antibody formulation according to any one of claims 1-6 or the solid antibody formulation according to claim 7 for use in intravenous or intramuscular injection.

10. Use of the liquid antibody formulation according to any one of claims 1-6 or the solid antibody formulation according to claim 7 in preparing a medicament for treating, preventing or delaying a disorder selected from various blood cancers and solid tumors.

11. The use according to claim 10, wherein the disorder is selected fromleukemia, lymphoma, myeloma, brain tumor, head and neck squamous cell carcinoma, non-small cell lung cancer, nasopharyngeal cancer, esophageal cancer, gastric cancer, pancreatic cancer, gall bladder cancer, cholangiocarcinoma, liver cancer, colorectal cancer, breast cancer, ovarian cancer, cervical cancer, endometrial cancer, uterine sarcoma, prostatic cancer, bladder cancer, renal cell carcinoma and melanoma.