Claims:

~~1. A method of treating a CD30-positive cancer in a subject, comprising:~~

~~(i) administering a lymphodepleting chemotherapy to the subject, and~~

~~(ii) subsequently administering CD30-specific chimeric antigen receptor (CAR)-expressing T cells to the subject.~~

~~2. A population of CD30-specific chimeric antigen receptor (CAR)-expressing T cells for use in a method of treating a CD30-positive cancer, wherein the method comprises:~~

~~(i) administering a lymphodepleting chemotherapy to the subject, and~~

~~(ii) subsequently administering CD30-specific CAR-T cells to the subject.~~

[Claim ~~3~~1]. Use of a population of CD30-specific chimeric antigen receptor (CAR)-expressing T cells in the manufacture of a medicament for use in a method of treating a CD30-positive cancer, wherein the method comprises:

(i) administering a lymphodepleting chemotherapy to the subject, and

(ii) subsequently administering CD30-specific CAR-T cells to the subject.

[Claim ~~4~~2]. The ~~method according to claim 1, the population for use according to claim 2, or the~~ use according to claim ~~3~~1, wherein administering a lymphodepleting chemotherapy to the subject comprises administering fludarabine and bendamustine.

[Claim ~~5~~3]. The ~~method, the population for use or the~~ use according to ~~any one of~~ claim~~s~~ 1 ~~to 4,~~or claim 2, wherein the method comprises administering fludarabine at a dose of 15 to 60 mg/m^2 per day, for 2 to 6 consecutive days.

[Claim ~~6~~4]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~5~~3, wherein the method comprises administering fludarabine at a dose of 30 mg/m^2 per day, for 3 consecutive days.

[Claim ~~7~~5]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~6~~4, wherein the method comprises administering bendamustine at a dose of 35 to 140 mg/m^2 per day, for 2 to 6 consecutive days.

[Claim ~~8~~6]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~7~~5, wherein the method comprises administering bendamustine at a dose of 70 mg/m^2 per day, for 3 consecutive days.

[Claim ~~9~~7]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~8~~6, wherein the method comprises administering 5 x 10^7 CD30-specific CAR-expressing T cells/m^2 to 1 x 10^9 CD30-specific CAR-expressing T cells/m^2 to the subject.

[Claim ~~108~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~97~~, wherein the method comprises administering 1 x 10^8 CD30-specific CAR-expressing T cells/m^2 to 6 x 10^8 CD30-specific CAR-expressing T cells/m^2 to the subject.

[Claim ~~119~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~108~~, wherein the method comprises:

(i) administering fludarabine at a dose of 30 mg/m^2 per day and bendamustine at a dose of 70 mg/m^2 per day to a subject for 3 consecutive days, and

(ii) subsequently administering CD30-specific CAR-expressing T cells to the subject at a dose of 2 x 10^8 CD30-specific CAR-expressing T cells/m^2 to 6 x 10^8 CD30-specific CAR-expressing T cells/m^2.

[Claim ~~1210~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~119~~, wherein the CD30-positive cancer is selected from: a hematological cancer, a solid cancer, a hematopoietic malignancy, Hodgkin's lymphoma, anaplastic large cell lymphoma, peripheral T cell lymphoma, peripheral T cell lymphoma not otherwise specified, T cell leukemia, T cell lymphoma, cutaneous T cell lymphoma, NK-T cell lymphoma, extranodal NK-T cell lymphoma, non-Hodgkin's lymphoma, B cell non-Hodgkin's lymphoma, diffuse large B cell lymphoma, diffuse large B cell lymphoma not otherwise specified, EBV-positive B cell lymphoma, EBV-positive diffuse large B cell lymphoma, primary mediastinal B cell lymphoma, advanced systemic mastocytosis, a germ cell tumor and testicular embryonal carcinoma.

[Claim ~~1311~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~1210~~, wherein the CD30-positive cancer is selected from: Hodgkin's lymphoma, non-Hodgkin's lymphoma, anaplastic large cell lymphoma, peripheral T cell lymphoma not otherwise specified, extranodal NK-T cell lymphoma, diffuse large B cell lymphoma not otherwise specified and primary mediastinal large B-cell lymphoma.

[Claim ~~1412~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~1311~~, wherein the subject has previously failed therapy for the CD30-positive cancer.

[Claim ~~1513~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~1412~~, wherein the CD30-positive cancer is a relapsed or refractory CD30-positive cancer.

[Claim ~~1614~~]. The ~~method, the population for use or the~~ use according to any one of claims 1 to ~~1513~~, wherein CD30-specific CAR-expressing T cells comprise a CAR comprising: (i) an antigen-binding domain which binds specifically to CD30, (ii) a transmembrane domain, and (iii) a signalling domain, wherein the signalling domain comprises: (a) an amino acid sequence derived from the intracellular domain of CD28, and (b) an amino acid sequence comprising an immunoreceptor tyrosine-based activation motif (ITAM).

[Claim ~~1715~~]. The ~~method, the population for use or the~~ use according to claim ~~1614~~, wherein the signalling domain comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:26.

[Claim ~~18~~16]. The ~~method, the population for use or the~~ use according to claim ~~16~~ 14 or claim ~~17~~ 15, wherein the transmembrane domain is derived from the transmembrane domain of CD28.

[Claim ~~19~~17]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~18~~16, wherein the transmembrane domain comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:20.

[Claim ~~20~~18]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~19~~16, wherein the antigen-binding domain comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:14, and an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:15.

[Claim ~~21~~19]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~20~~18, wherein the antigen-binding domain comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:18.

[Claim ~~22~~20]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~21~~19, wherein the signalling domain comprises: (a) an amino acid sequence derived from the intracellular domain of CD3ζ.

[Claim ~~23~~21]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~22~~20, wherein the signalling domain comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:25.

[Claim ~~24~~22]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~23~~21, wherein the CAR additionally comprises a hinge region provided between the antigen-binding domain and the transmembrane domain.

[Claim ~~25~~23]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~24~~22, wherein the hinge region comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:33.

[Claim ~~26~~24]. The ~~method, the population for use or the~~ use according to any one of claims ~~16~~ 14 to ~~25~~23, wherein the CAR comprises an amino acid sequence having at least 80% amino acid sequence identity to SEQ ID NO:35 or 36.