wherein the variant has one or more substitutions comprising Q1E, T40A, E46V, G79L, K87R, P88A, D89E, V97A, S98R, and Q117L according to SEQ ID NO:36; or (iv) an amino acid sequence represented by any of SEQ ID NOs: 36, 37, 38, 39, 40, and 41. In various embodiments of the CAR, the CAR further comprises a hinge peptide that comprises no more than 80 amino acids, or comprises between 80 to 180 amino acids. In various embodiments, the CAR has at least one of the following characteristics: (i) being T cell specific; (ii) being NK cell specific; (iii) binding to tumor cell surface B7H3; (iv) reducing tumor cell surface shedding of B7H3 antigen; or (v)increasing tumor cell surface B7H3 density. In another embodiment of the CAR, when the CAR is expressed in an effector cell, said effector cell has one or more of the following characteristics: (i) enhancing effector cell activation and killing function compared to a corresponding effector cell lacking the chimeric receptor; and (ii) capable of *in vivo* tumor progression control, tumor cell burden reduction, tumor clearance, and/or improving rate of survival of a subject carrying the tumor compared to a corresponding cell lacking the chimeric receptor.

[00050] Yet another aspect of the present application provides a method of manufacturing a derivative cells comprising a polynucleotide encoding the CAR described herein, wherein the method comprises differentiating an iPSC to obtain the derivative cells, wherein the polynucleotide encoding the CAR is introduced into the iPSC before differentiation or is introduced to the derivative cells after iPSC differentiation.

[00051] Various objects and advantages of the compositions and methods as provided herein will become apparent from the following description taken in conjunction with the accompanying drawings wherein are set forth, by way of illustration and example, certain embodiments of this invention.

[00051a] In another aspect, provided herein is a composition comprising the cell or population thereof as described herein.

[00051b] In another aspect, provided herein is a composition comprising the derivative cell as described herein, and one or more therapeutic agents.

[00051c] In another aspect, provided herein is use of the composition as described herein in the manufacture of a medicament for the treatment of an autoimmune disorder; a hematological malignancy; a solid tumor; cancer, or a virus infection.

[00051d] In another aspect, provided herein is use of the composition as described herein in the manufacture of a medicament for treating a tumor of a subject, optionally wherein the tumor is a solid tumor or the tumor is heterogenous.

[00051e] In another aspect, provided herein is a method of manufacturing the derivative cell comprising a polynucleotide encoding the CAR as described herein, wherein the method

comprises differentiating an iPSC to obtain the derivative cells, wherein the polynucleotide encoding the CAR is introduced into the iPSC before differentiation or is introduced to the derivative cells after iPSC differentiation.

[00051f] In another aspect, provided herein is the composition as described herein for use in therapy.

BRIEF DESCRIPTION OF THE DRAWINGS

[00052] FIGS. 1A-1E demonstrate that T cell engagers improve CAR-T cell efficacy in a range of tumor models. FIG. 1A shows profiling of Antigen and EpCAM expression in SKOV3, MDA-MB-231, Jimt1, and K562 tumor cell lines. FIG. 1B shows a dose-dependent increase in cytolysis by $CD8^+$ T cells co-cultured with SKOV3 tumor cells in the presence of EpCAM BiTEs. FIG. 1C shows specific cytolysis results of SKOV3 ($Antigen^{High}$), JIMT1 ($Antigen^+$), and MDA-MB-231 ($Antigen^{Low}$) tumor cells co-cultured with Antigen-specific CAR transduced T cells with and without EpCAM BiTE. FIG. 1D shows the IFNγ production of the CAR-T cell with or without the BiTE via intracellular cytokine staining and FIG. 1E shows the comparison of the effector cell IFNγ production with or without the presence of BiTE using ELISA ($P<0.001$).