above sequences by no more than 10 amino acids. The amino acid sequence of the human Myc protein may be the amino acid sequence numbered P0l106 isoforml in UniProtKB. The amino acid sequence of the influenza virus HA protein may be the amino acid sequence numbered Q03909 in UniProtKB.

[0069] In a specific embodiment, the amino acid sequence of the extracellular antigen determining region of the labeling polypeptide comprises the amino acid sequences of one or more said antigenic epitope polypeptides, wherein when the amino acid sequence of the extracellular antigen determining region of the labeling polypeptide comprises the amino acid sequences of a plurality of the antigenic epitope polypeptides, every two adjacent antigenic epitope polypeptides are operably linked, for example, may be linked using a linker, or may be linked directly without a linker. The amino acid sequence of the linker may be, for example: G (as used in the labeling polypeptides C1&2a and C1&2b), GGS (as used in C1&2a and C1&2b), GGGGSGGGGS (SEQ ID NO. 61) (as used in TT1-TT3).

[0070] In order to enhance the immunogenicity of the labeling polypeptide, the extracellular antigen determining region of the labeling polypeptide preferably comprises n antigenic epitope polypeptides, wherein n is an integer greater than or equal to 1, for example, n = 1, 2, 3, 4, etc. Preferably, n is an integer of 1-10; further preferably, n is an integer of 2-5; and further preferably, n = 2 or 3. For example, the extracellular antigen determining region of the labeling polypeptide may comprise 3 repeated antigenic epitope polypeptides derived from the Myc tag (see, e.g., TT1), or comprise 3 repeated antigenic epitope polypeptides derived from the HA tag (see, e.g., TT2), or comprise 3 repeated antigenic epitope polypeptides derived from the Strep tag II (see, e.g., TT3), or comprise 3 repeated antigenic epitope polypeptides derived from the Myc tag and 3 repeated antigenic epitope polypeptides derived from the HA tag (see, e.g., C1&2a), or comprise 2 repeated antigenic epitope polypeptides derived from the Myc tag and 2 repeated antigenic epitope polypeptides derived from the HA Tag (see, e.g., C1&2b).

[0071] In one embodiment of the present disclosure, the amino acid sequences of the extracellular antigen determining regions are set forth in SEQ ID NO: 1 (corresponding to TT1), SEQ ID NO: 2 (corresponding to TT2), SEQ ID NO: 3 (corresponding to TT3), SEQ ID NO: 4 (corresponding to C1&2a), and SEQ ID NO: 5 (corresponding to C1&2b).

	K
4	EQKLISEEDLGEQKLISEEDLGEQKLISEEDLGGSYPYDVPDYAGYPYDVPDYAGYPYDVPDYA
5	EQKLISEEDLGEQKLISEEDLGGSYPYDVPDYAGYPYDVPDYA
6	FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAVHTRGLDFACD
7	IYIWAPLAGTCGVLLLSLVITLYCNHRN
8	MLLLVTSLLLCELPHPAFLLIP
9	TGTIETTGNISAEKGGSIILQCHLSSTTAQVTQVNWEQQDQLLAICNADLGWHISPSFKDRVAPGPGLGLTLQSLTVNDTGEYFCIYHTYPDGTYTGRIFLEVLESSVAEHGARFQI
10	TGTIETTGNISAEKGGSIILQCHLSSTTAQVTQVNWEQQDQLLAICNADLGWHISPSFKDRVAPGPGLGLTLQSLTVNDTGEYFCIYHTYPDGTYTGRIFLEVLESSVAEHGARFQIASFVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAVHTRGLDFACDIYIWAPLAGTCGVLLLSLVITLYCNHRN

[0079] Preferably, the amino acid sequence of the labeling polypeptide is set forth in SEQ ID NO: 11 (corresponding to TT1), SEQ ID NO: 12 (corresponding to TT2), SEQ ID NO: 13 (corresponding to TT3), SEQ ID NO: 14 (corresponding to C1&2a), or SEQ ID NO: 15 (corresponding to C1&2b).

[0080] SEQ ID NO:11:

EQKLISEEDLGGGGSGGGGS**EQKLISEEDL**GGGGSGGGGS**EQKLISEEDL**GGGGSGGGGSAS*FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAVHTRGLDFACD*IYIWAPLAGTCGVLLLSLVITLYCNHRN

[0081] The boldface shows the antigenic epitope polypeptide, the italic portion shows the spacer portion from the CD8 hinge region, and the underline shows the transmembrane portion from the CD8 transmembrane region.

[0082] SEQ ID NO:12:

YPYDVPDYAGGGGSGGGGS**YPYDVPDYA**GGGGSGGGGS**YPYDVPDYA**GGGGSGGGGSAS*FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAVHTRGLDFACD*IYIWAPLAGTCGVLLLSLVITLYCNHRN

[0083] The boldface shows the antigenic epitope polypeptide, the italic portion shows

the spacer portion from the CD8 hinge region, and the underline shows the transmembrane portion from the CD8 transmembrane region.

[0084] SEQ ID NO:13:

NWSHPQFEKGGGGSGGGGS**NWSHPQFEK**GGGGSGGGGS**NWSHPQFEK**G GGGSGGGGSAS*FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAV HTRGLDFACD*IYIWAPLAGTCGVLLLSLVITLYCNHRN

[0085] The boldface shows the antigenic epitope polypeptide, the italic portion shows the spacer portion from the CD8 hinge region, and the underline shows the transmembrane portion from the CD8 transmembrane region.

[0086] SEQ ID NO:14:

EQKLISEEDLG**EQKLISEEDL**G**EQKLISEEDL**GGS**YPYDVPDYA**G**YPYDVP DYA**G**YPYDVPDYA**AS*FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAA GGAVHTRGLDFACD*IYIWAPLAGTCGVLLLSLVITLYCNHRN

[0087] The boldface shows the antigenic epitope polypeptide, the italic portion shows the spacer portion from the CD8 hinge region, and the underline shows the transmembrane portion from the CD8 transmembrane region.

[0088] SEQ ID NO:15:

EQKLISEEDLG**EQKLISEEDL**GGS**YPYDVPDYA**G**YPYDVPDYA**GTGTIETT GNISAEKGGSIILQCHLSSTTAQVTQVNWEQQDQLLAICNADLGWHISPSFKD RVAPGPGLGLTLQSLTVNDTGEYFCIYHTYPDGTYTGRIFLEVLESSVAEHGA RFQIAS*FVPVFLPAKPTTTPAPRPPTPAPTIASQPLSLRPEACRPAAGGAVHTRGLD FACD*IYIWAPLAGTCGVLLLSLVITLYCNHRN

[0089] The boldface shows the antigenic epitope polypeptide, the double underline portion shows the portion from the TIGIT spacer region in the spacer portion, the italic portion shows the portion from the CD8 hinge region in the spacer portion, and the underline shows the transmembrane portion from the CD8 transmembrane region.

[0090] Nucleic Acid Having Labeling Polypeptide Encoding Sequence

[0091] In obtaining the labeling polypeptide encoding sequence above, encoding sequences encoding these labeling polypeptides can be obtained using rules common in the art. The nucleic acid having a labeling polypeptide encoding sequence includes a DNA or an RNA; and the RNA comprises an mRNA transcribed from the DNA. Preferably, the nucleic acid comprises in sequence a promoter and the labeling polypeptide encoding sequence that are operably linked. Examples of the promoter

moiety and the second antigen-binding moiety mentioned are fused, wherein the first antigen-binding moiety and the second antigen-binding moiety target different epitopes of different antigens, respectively. The first antigen-binding moiety and the second antigen-binding moiety mentioned are fused, wherein they may be directly linked (e.g., directly linked by the terminal amino acids of the two), may be indirectly linked by a linker, or may have additional functional region sequences, such as an Fc region, a CH1, and a CL sequence, linked between them. It should be noted that the terms “first”, “second”, and “third” as used herein, are used for descriptive purposes only and should not be construed as indicating or implying relative importance or implicitly indicating the number of indicated technical features, nor should they be used to indicate an order of appearance. The terms “first antigen-binding moiety”, “second antigen-binding moiety”, and “third antigen-binding moiety” mean moieties capable of binding to different epitopes of different target antigens or different epitopes of the same target antigen, which may be intact antibodies or part of an intact antibody, such as heavy chain variable regions, Fab, Fab', F(ab')2, single-chain antibodies (ScFvs), or single-domain antibodies (sdAbs). According to a preferred embodiment of the present disclosure, the “first antigen-binding moiety”, the “second antigen□binding moiety”, and the “third antigen-binding moiety” specifically bind to different epitopes of different antigens, respectively.

[0120] Herein, “linker” and “linking fragment” have the same meaning. Linkers may be some oligopeptides or polypeptides, and may be any amino acid sequences capable of providing flexibility. Useful linkers are those commonly used in the art, including, but not limited to, the group consisting of: GS, SG, GGS, GSG, SGG, GGG, GGGS (SEQ ID NO. 62), SGGG (SEQ ID NO. 63), GGGGS (SEQ ID NO. 64), GGGGGSGS (SEQ ID NO. 65), GGGGSGS (SEQ ID NO. 66), GGGGSGGS (SEQ ID NO. 66), GGGGSGGGGSGGGGS (SEQ ID NO. 18), GGGGSGGGGS (SEQ ID NO. 61), GGGGSGGGGSGGGGSGGGGS (SEQ ID NO. 67), GGGGSGGGGSGGGGSGGGGSGGGGS (SEQ ID NO. 68), GGGGSGGGGSGGGGSGGGGSGGGGSGGGS (SEQ ID NO. 69), etc.

[0121] The first antigen-binding moiety provided is capable of specifically recognizing and binding to the extracellular antigen determining region of the labeling polypeptide. According to a specific embodiment, the first antigen-binding moiety provided is capable of specifically recognizing and binding to the amino acid sequence set forth in SEQ ID NO: 1, 2, 3, 4, or 5 mentioned above. According to a specific embodiment, the first antigen-binding moiety provided comprises one or more