Claims

1. A binding agent comprising at least two binding domains, wherein a first binding domain binds to a first receptor of the tumor necrosis factor (TNF) superfamily and a second binding domain binds to a second receptor of the TNF superfamily, wherein
the first binding domain binds to CD40 and the second binding domain binds to 4-1BB (CD137), wherein
the binding agent is a bispecific antibody, wherein the binding agent is an agonistic binding agent and activates the first receptor and the second receptor at once,
wherein the first binding domain binding to CD40 is selected from a first group consisting of:
(a) the heavy chain complementarity determining region HCDR1 having the amino acid sequence of SEQ ID NO: 2323, the HCDR2 having the amino acid sequence of SEQ ID NO: 2324 and the HCDR3 having the amino acid sequence of SEQ ID NO: 2325, and
the light chain complementarity determining region LCDR1 having the amino acid sequence of SEQ ID NO: 2326, the LCDR2 having the amino acid sequence of SEQ ID NO: 2327 and the LCDR3 having the amino acid sequence of SEQ ID NO: 2328; and
(b) the heavy chain variable domain (VH) having the amino acid sequence of SEQ ID NO: 2321 and the light chain variable domain (VL) having the amino acid sequence of SEQ ID NO: 2322; and
wherein the second binding domain binding to 4-1BB (CD137) is selected from a second group consisting of:
(a) the heavy chain complementarity determining region HCDR1 having the amino acid sequence of SEQ ID NO: 2297, the HCDR2 having the amino acid sequence of SEQ ID NO: 2298 and the HCDR3 having the amino acid sequence of SEQ ID NO: 2299, and
the light chain complementarity determining region LCDR1 having the amino acid sequence of SEQ ID NO: 2300, the LCDR2 having the amino acid sequence of SEQ ID NO: 2301 and the LCDR3 having the amino acid sequence of SEQ ID NO: 2302;

(b) the heavy chain variable domain (VH) having the amino acid sequence of SEQ ID NO: 2241 and the light chain variable domain (VL) having the amino acid sequence of SEQ ID NO: 2242;

(c) the heavy chain complementarity determining region HCDR1 having the amino acid sequence of SEQ ID NO: 2255, the HCDR2 having the amino acid sequence of SEQ ID NO: 2256 and the HCDR3 having the amino acid sequence of SEQ ID NO: 2257, and

the light chain complementarity determining region LCDR1 having the amino acid sequence of SEQ ID NO: 2258, the LCDR2 having the amino acid sequence of SEQ ID NO: 2259 and the LCDR3 having the amino acid sequence of SEQ ID NO: 2260;

(d) the heavy chain variable domain (VH) having the amino acid sequence of SEQ ID NO: 2227 and the light chain variable domain (VL) having the amino acid sequence of SEQ ID NO: 2228;

(e) the heavy chain complementarity determining region HCDR1 having the amino acid sequence of SEQ ID NO: 2315, the HCDR2 having the amino acid sequence of SEQ ID NO: 2316 and the HCDR3 having the amino acid sequence of SEQ ID NO: 2317, and

the light chain complementarity determining region LCDR1 having the amino acid sequence of SEQ ID NO: 2318, the LCDR2 having the amino acid sequence of SEQ ID NO: 2319 and the LCDR3 having the amino acid sequence of SEQ ID NO: 2320; and

(f) the heavy chain variable domain (VH) having the amino acid sequence of SEQ ID NO: 2247 and the light chain variable domain (VL) having the amino acid sequence of SEQ ID NO: 2248.

2. The binding agent of claim 1, wherein the binding agent is in the format of a full-length antibody.

3. A nucleic acid molecule encoding a binding agent according to claim 1 or 2, wherein, preferably, the nucleic acid molecule is contained in a vector.

4. A cell comprising a nucleic acid molecule according to claim 3.

5. A pharmaceutical composition comprising, as an active agent, a binding agent according to claim 1 or 2, a nucleic acid molecule according to claim 3, or a cell according to claim 4.

6. The pharmaceutical composition according to claim 5, further comprising a pharmaceutically acceptable carrier and/or excipient.

7. A kit comprising a binding agent according to claim 1 or 2, a nucleic acid molecule according to claim 3, a cell according to claim 4, or a pharmaceutical composition according to claim 5 or 6.

8. A binding agent according to claim 1 or 2, a nucleic acid molecule according to claim 3, a cell according to claim 4, or a pharmaceutical composition according to claim 5 or 6 for use as a medicament.

9. A binding agent according to claim 1 or 2, a nucleic acid molecule according to claim 3, a cell according to claim 4, or a pharmaceutical composition according to claim 5 or 6 for use in the treatment of a disease selected from the group consisting of cancer, infectious diseases, inflammatory diseases, metabolic diseases, autoimmune disorders, degenerative diseases, apoptosis-associated diseases and transplant rejections.