CLAIMS

1. A nucleic acid construct, comprising:

(a) an open reading frame (ORF), and

(b) an untranslated region element (UTR), the UTR comprising the following sequence:

any one of SEQ ID NOs: 12 and 26 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 1 and 15 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 4-5 and 18-19 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 6-8 and 20-22 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 9-11 and 23-25 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 13 and 27 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 14 and 28 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 29 and 30 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 35-37 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 42 and 43 or a sequence having at least 90% identity thereto,

any one of SEQ ID NOs: 46 and 47 or a sequence having at least 90% identity thereto, or

any one of SEQ ID NOs: 31-34, 38-41, and 44-45 or a sequence having at least 90% identity thereto.

2. The nucleic acid construct according to claim 1, wherein (b) comprises a combination of a 3' untranslated region element (3'UTR) and a 5' untranslated region element (5'UTR) selected from the group consisting of any one of the following:

1) the 3'UTR comprises the sequence set forth in SEQ ID NO: 1 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

2) the 3'UTR comprises the sequence set forth in SEQ ID NO: 2 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

3) the 3'UTR comprises the sequence set forth in SEQ ID NO: 3 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

4) the 3'UTR comprises the sequence set forth in SEQ ID NO: 4 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

5) the 3'UTR comprises the sequence set forth in SEQ ID NO: 5 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of

SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

6) the 3'UTR comprises the sequence set forth in SEQ ID NO: 6 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

7) the 3'UTR comprises the sequence set forth in SEQ ID NO: 7 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

8) the 3'UTR comprises the sequence set forth in SEQ ID NO: 8 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

9) the 3'UTR comprises the sequence set forth in SEQ ID NO: 9 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

10) the 3'UTR comprises the sequence set forth in SEQ ID NO: 10 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

11) the 3'UTR comprises the sequence set forth in SEQ ID NO: 11 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

12) the 3'UTR comprises the sequence set forth in SEQ ID NO: 12 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

13) the 3'UTR comprises the sequence set forth in SEQ ID NO: 13 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

14) the 3'UTR comprises the sequence set forth in SEQ ID NO: 14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15-47 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15-47;

15) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR

comprises the sequence set forth in SEQ ID NO: 15 or a sequence having at least 90% identity thereto;

16) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 16 or a sequence having at least 90% identity thereto;

17) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 17 or a sequence having at least 90% identity thereto;

18) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 18 or a sequence having at least 90% identity thereto;

19) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 19 or a sequence having at least 90% identity thereto;

20) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 20 or a sequence having at least 90% identity thereto;

21) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 21 or a sequence having at least 90% identity thereto;

22) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 22 or a sequence having at least 90% identity thereto;

23) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 23 or a sequence having at least 90% identity thereto;

24) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 24 or a sequence having at least 90% identity thereto;

25) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR

comprises the sequence set forth in SEQ ID NO: 25 or a sequence having at least 90% identity thereto;

26) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 26 or a sequence having at least 90% identity thereto;

27) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 27 or a sequence having at least 90% identity thereto;

28) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 28 or a sequence having at least 90% identity thereto;

29) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 29 or a sequence having at least 90% identity thereto;

30) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 30 or a sequence having at least 90% identity thereto;

31) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 31 or a sequence having at least 90% identity thereto;

32) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 32 or a sequence having at least 90% identity thereto;

33) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 33 or a sequence having at least 90% identity thereto;

34) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 34 or a sequence having at least 90% or 95% identity thereto;

35) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR

comprises the sequence set forth in SEQ ID NO: 35 or a sequence having at least 90% identity thereto;

36) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 36 or a sequence having at least 90% identity thereto;

37) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 37 or a sequence having at least 90% identity thereto;

38) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 38 or a sequence having at least 90% identity thereto;

39) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 39 or a sequence having at least 90% identity thereto;

40) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 40 or a sequence having at least 90% identity thereto;

41) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 41 or a sequence having at least 90% identity thereto;

42) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 42 or a sequence having at least 90% identity thereto;

43) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 43 or a sequence having at least 90% identity thereto;

44) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 44 or a sequence having at least 90% identity thereto;

45) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR

comprises the sequence set forth in SEQ ID NO: 45 or a sequence having at least 90% identity to any one of SEQ ID NO: 45;

46) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 46 or a sequence having at least 90% to any one of SEQ ID NO: 46; or

47) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 1-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 1-14, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 47 or a sequence having at least 90% identity to any one of SEQ ID NO: 47.

3. The nucleic acid construct according to claim 1, wherein:

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 12-14 or a sequence having at least 90% identity to any one of SEQ ID NOs: 12-14, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15, 29, 30, and 32 or a sequence having at least 90% identity to any one of SEQ ID NOs: 15, 29, 30, and 32;

preferably,

the 3'UTR comprises the sequence set forth in SEQ ID NO: 12 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15, 29, 30, and 32 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in SEQ ID NO: 13 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15, 29, 30, and 32 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in SEQ ID NO: 14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 15, 29, 30, and 32 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 12-14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 15 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 12-14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 29 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 12-14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 30 or a sequence having at least 90% identity thereto; or

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 12-14 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 32 or a sequence having at least 90% identity thereto.

4. The nucleic acid construct according to any one of claims 1-3, further comprising:

(c) a polyadenylic acid (poly-A) tail,
wherein preferably, the poly-A tail is selected from the group consisting of A120, A30L70, HGH polyA, SV40 polyA, BGH polyA, rbGlob polyA, and SV40late polyA;
preferably, the poly-A tail is selected from the group consisting of A120 and A30L70, wherein the A120 comprises 120 adenine nucleotides, and the A30L70 comprises the sequence set forth in SEQ ID NO: 52 or a sequence having at least 90% identity thereto.

5. The nucleic acid construct according to any one of claims 1-4, wherein the ORF encodes hepatocyte growth factor (HGF), an antibody or an antigen-binding fragment thereof, preferably human hepatocyte growth factor (hHGF), an anti-PD-1 antibody or an antigen-binding fragment thereof.

6. The nucleic acid construct according to claim 5, wherein the ORF comprises any one selected from the group consisting of the following 1)-2):
1) a polynucleotide sequence encoding the amino acid sequence set forth in SEQ ID NO: 109; and
2) the polynucleotide sequence set forth in any one of SEQ ID NOs: 110-113 or a polynucleotide sequence having at least 90% identity thereto;
or, the ORF comprises any one selected from the group consisting of the following 1)-3):
1) a polynucleotide sequence encoding a heavy chain amino acid sequence set forth in SEQ ID NO: 117, and/or a polynucleotide sequence encoding a light chain amino acid sequence set forth in SEQ ID NO: 118;
2) a polynucleotide sequence encoding a HCDR1, a HCDR2, and a HCDR3 in the heavy chain amino acid sequence set forth in SEQ ID NO: 117, and a polynucleotide sequence encoding a LCDR1, a LCDR2, and a LCDR3 in the light chain amino acid sequence set forth in SEQ ID NO: 118, the CDRs being defined according to the Kabat, IMGT, Chothia, AbM, or Contact numbering scheme, preferably the Kabat numbering scheme; and
3) the polynucleotide sequence set forth in SEQ ID NO: 119 or a polynucleotide sequence having at least 90% identity thereto, and/or the polynucleotide sequence set forth in SEQ ID NO: 120 or a polynucleotide sequence having at least 90% identity thereto.

7. The nucleic acid construct according to any one of claims 5-6, comprising the sequence set forth in any one of SEQ ID NOs: 115, 116, and 127 or a sequence having at least 90% identity thereto, or comprising the sequence set forth in SEQ ID NO: 124 or a sequence having at least 90% identity thereto and/or the sequence set forth in SEQ ID NO: 125 or a sequence having at least 90% identity thereto.

8. An RNA molecule, comprising:
(a) an open reading frame (ORF), and

(b) an untranslated region element (UTR), the UTR comprising the following sequence:
any one of SEQ ID NOs: 69 and 83 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 58 and 72 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 59-60 and 73-74 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 61-62 and 75-76 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 63-65 and 77-79 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 66-68 and 80-82 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 70 and 84 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 71 and 85 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 86 and 87 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 92-94 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 99 and 100 or a sequence having at least 90% identity thereto,
any one of SEQ ID NOs: 103 and 104 or a sequence having at least 90% identity thereto, or
any one of SEQ ID NOs: 88-91, 95-98, and 101-102 or a sequence having at least 90% identity thereto.

9. The RNA molecule according to claim 8, wherein (b) comprises a combination of a 3' untranslated region element (3'UTR) and a 5' untranslated region element (5'UTR) selected from the group consisting of any one of the following:
1) the 3'UTR comprises the sequence set forth in SEQ ID NO: 58 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;
2) the 3'UTR comprises the sequence set forth in SEQ ID NO: 59 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;
3) the 3'UTR comprises the sequence set forth in SEQ ID NO: 60 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;
4) the 3'UTR comprises the sequence set forth in SEQ ID NO: 61 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

5) the 3'UTR comprises the sequence set forth in SEQ ID NO: 62 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

6) the 3'UTR comprises the sequence set forth in SEQ ID NO: 63 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

7) the 3'UTR comprises the sequence set forth in SEQ ID NO: 64 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

8) the 3'UTR comprises the sequence set forth in SEQ ID NO: 65 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

9) the 3'UTR comprises the sequence set forth in SEQ ID NO: 66 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

10) the 3'UTR comprises the sequence set forth in SEQ ID NO: 67 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

11) the 3'UTR comprises the sequence set forth in SEQ ID NO: 68 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequences set forth in SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

12) the 3'UTR comprises the sequence set forth in SEQ ID NO: 69 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

13) the 3'UTR comprises the sequence set forth in SEQ ID NO: 70 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

14) the 3'UTR comprises the sequence set forth in SEQ ID NO: 71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72-104 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72-104;

15) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 72 or a sequence having at least 90% identity thereto;

16) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 73 or a sequence having at least 90% identity thereto;

17) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 74 or a sequence having at least 90% identity thereto;

18) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 75 or a sequence having at least 90% identity thereto;

19) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 76 or a sequence having at least 90% identity thereto;

20) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 77 or a sequence having at least 90% identity thereto;

21) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 78 or a sequence having at least 90% identity thereto;

22) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 79 or a sequence having at least 90% identity thereto;

23) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 80 or a sequence having at least 90% identity thereto;

24) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 81 or a sequence having at least 90% identity thereto;

25) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a

sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 82 or a sequence having at least 90% identity thereto;

26) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 83 or a sequence having at least 90% identity thereto;

27) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 84 or a sequence having at least 90% identity thereto;

28) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 85 or a sequence having at least 90% identity thereto;

29) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 86 or a sequence having at least 90% identity thereto;

30) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 87 or a sequence having at least 90% identity thereto;

31) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 88 or a sequence having at least 90% identity thereto;

32) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 89 or a sequence having at least 90% identity thereto;

33) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 90 or a sequence having at least 90% identity thereto;

34) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 91 or a sequence having at least 90% or 95% identity to any one of SEQ ID NO: 91;

35) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a

sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 92 or a sequence having at least 90% identity thereto;

36) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 93 or a sequence having at least 90% identity thereto;

37) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 94 or a sequence having at least 90% identity thereto;

38) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 95 or a sequence having at least 90% identity thereto;

39) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 96 or a sequence having at least 90% identity thereto;

40) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 97 or a sequence having at least 90% identity thereto;

41) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 98 or a sequence having at least 90% identity thereto;

42) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 99 or a sequence having at least 90% identity thereto;

43) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 100 or a sequence having at least 90% identity thereto;

44) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 101 or a sequence having at least 90% identity thereto;

45) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a

sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 102 or a sequence having at least 90% identity thereto;

46) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 103 or a sequence having at least 90% identity thereto; or

47) the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-71 or a sequence having at least 90% identity to any one of SEQ ID NOs: 58-71, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 104 or a sequence having at least 90% identity thereto.

10. The RNA molecule according to claim 8, wherein:

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 69-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72, 86, 87, and 89 or a sequence having at least 90% identity to any one of SEQ ID NOs: 72, 86, 87, and 89;

preferably,

the 3'UTR comprises the sequence set forth in SEQ ID NO: 69 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72, 86, 87, and 89 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in SEQ ID NO: 70 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72, 86, 87, and 89 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in SEQ ID NO: 71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in any one of SEQ ID NOs: 72, 86, 87, and 89 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 69-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 72 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 69-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 86 or a sequence having at least 90% identity thereto;

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 69-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 87 or a sequence having at least 90% identity thereto; or

the 3'UTR comprises the sequence set forth in any one of SEQ ID NOs: 69-71 or a sequence having at least 90% identity thereto, and the 5'UTR comprises the sequence set forth in SEQ ID NO: 89 or a sequence having at least 90% identity thereto.

11. The RNA molecule according to any one of claims 8-10, further comprising:
(c) a polyadenylic acid (poly-A) tail,
wherein preferably, the poly-A tail is selected from the group consisting of A120, A30L70, HGH polyA, SV40 polyA, BGH polyA, rbGlob polyA, and SV40late polyA;
preferably, the poly-A tail is selected from the group consisting of A120 and A30L70, wherein the A120 comprises 120 adenine nucleotides, and the A30L70 comprises the sequence set forth in SEQ ID NO: 52 or a sequence having at least 90% or 95% identity thereto.

12. The RNA molecule according to any one of claims 8-11, wherein the ORF encodes hepatocyte growth factor (HGF), an antibody or an antigen-binding fragment thereof, preferably human hepatocyte growth factor (hHGF), an anti-PD-1 antibody or an antigen-binding fragment thereof;
preferably, the ORF comprises any one selected from the group consisting of the following 1)-2):
1) a nucleic acid sequence encoding the amino acid sequence set forth in SEQ ID NO: 109; and
2) an RNA sequence set forth in any one of SEQ ID NOs: 128-131 or an RNA sequence having at least 90%, preferably at least 95%, identity thereto; or,
the ORF comprises any one selected from the group consisting of the following 1)-3):
1) a nucleic acid sequence encoding a heavy chain amino acid sequence set forth in SEQ ID NO: 117, and/or a nucleic acid sequence encoding a light chain amino acid sequence set forth in SEQ ID NO: 118;
2) a nucleic acid sequence encoding a HCDR1, a HCDR2, and a HCDR3 in the heavy chain amino acid sequence set forth in SEQ ID NO: 117, and a nucleic acid sequence encoding a LCDR1, a LCDR2, and a LCDR3 in the light chain amino acid sequence set forth in SEQ ID NO: 118, the CDRs being defined according to the Kabat, IMGT, Chothia, AbM, or Contact numbering scheme, preferably the Kabat numbering scheme; and
3) an RNA sequence set forth in SEQ ID NO: 121 or an RNA sequence having at least 90% identity thereto, and/or an RNA sequence set forth in SEQ ID NO: 122 or an RNA sequence having at least 90% identity thereto.

13. The RNA molecule according to any one of claims 8-12, comprising:
(d) a 5' cap structure (5'Cap),
wherein preferably, the 5'Cap is selected from the group consisting of Cap0, Cap1, Cap2, Cap3, Cap4, ARCA, modified ARCA, inosine, N1-methyl-guanosine, 2'-fluoro-guanosine, 7-deaza-guanosine, 8-oxo-guanosine, 2-amino-guanosine, LNA-guanosine, and 2-azido-guanosine;
more preferably, the 5'Cap is selected from the group consisting of ARCA, 3'-O-Me-

m^7G(5')ppp(5')G, m^7G(5')ppp(5')(2'OMeA)pU, m^7Gppp(A2'O-MOE)pG, m^7G(5')ppp(5')(2'OMeA)pG, m^7G(5')ppp(5')(2'OMeG)pG, m^7(3'OMeG)(5')ppp(5')(2'OMeG)pG, and m^7(3'OMeG)(5')ppp(5')(2'OMeA)pG.

14. The RNA molecule according to any one of claims 8-13, comprising one or more modifications, wherein preferably the modifications include backbone modifications, sugar modifications, base modifications, and/or lipid modifications; more preferably, the base modifications are uracil modifications.

15. The RNA molecule according to any one of claims 8-14, wherein the RNA molecule is used for increasing an expression level of a target protein expressed by the ORF.

16. An isolated polynucleotide, comprising (a) an open reading frame (ORF), the ORF comprising the sequence set forth in any one of SEQ ID NOs: 111-113 and 129-131 or a sequence having at least 90% identity thereto,
wherein preferably, the polynucleotide comprises any one of the following (b)-(d) or any combination thereof:
(b) a 5'UTR and/or a 3'UTR,
(c) a poly-A tail, and
(d) a 5'Cap;
preferably, the poly-A tail is selected from the group consisting of A120, A30L70, HGH polyA, SV40 polyA, BGH polyA, rbGlob polyA, and SV40late polyA; more preferably, the poly-A tail is A120 or A30L70;
preferably, the 5'Cap is selected from the group consisting of ARCA, 3'-O-Me-m^7G(5')ppp(5')G, m^7G(5')ppp(5')(2'OMeA)pU, m^7Gppp(A2'O-MOE)pG, m^7G(5')ppp(5')(2'OMeA)pG, m^7G(5')ppp(5')(2'OMeG)pG, m^7(3'OMeG)(5')ppp(5')(2'OMeG)pG, and m^7(3'OMeG)(5')ppp(5')(2'OMeA)pG;
preferably, the polynucleotide comprises one or more modifications selected from the group consisting of backbone modifications, sugar modifications, base modifications, and/or lipid modifications, wherein the base modifications are preferably pseudouridine modifications.

17. A nucleic acid construct, comprising:
(a) an open reading frame (ORF), and
(b) an untranslated region element (UTR) derived from a UTR of CTSB, FAM166A, NDUFB9, ACTG1, CHCHD10, NDUFA11, ATP6V0B, ATP6V0E1, CFL1, COX4I1, CTSB, SLC38A2, NDUFV3, PRDX5, GUK1, IAH1, ABHD16A, SLC25A39, ATPIF1, ANAPC11, CCDC12, MRPL14, or APOA1BP, the UTR being a 3' untranslated region element (3'UTR) or a 5' untranslated region element (5'UTR),
wherein preferably, the UTR comprises the sequence set forth in any one of SEQ ID NOs:

1-47 or a sequence having at least 90% identity thereto.

18. An RNA molecule, comprising:
(a) an open reading frame (ORF), and
(b) an untranslated region element (UTR) derived from a UTR of CTSB, FAM166A, NDUFB9, ACTG1, CHCHD10, NDUFA11, ATP6V0B, ATP6V0E1, CFL1, COX4I1, CTSB, SLC38A2, NDUFV3, PRDX5, GUK1, IAH1, ABHD16A, SLC25A39, ATPIF1, ANAPC11, CCDC12, MRPL14, or APOA1BP, the UTR being a 3' untranslated region element (3'UTR) or a 5' untranslated region element (5'UTR),
wherein preferably, the UTR comprises the sequence set forth in any one of SEQ ID NOs: 58-104 or a sequence having at least 90% identity thereto.

19. A vector, comprising the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, or the polynucleotide according to claim 16.

20. A host cell, comprising the vector according to claim 19.

21. A preparation method for the nucleic acid construct according to any one of claims 1-7 and 17, comprising culturing the host cell according to claim 20 and collecting a produced nucleic acid construct from the culture.

22. A preparation method for the RNA molecule according to any one of claims 8-15 and 18, comprising reverse-transcribing the nucleic acid construct according to any one of claims 1-7 and 17 or the vector according to claim 19 to obtain the RNA molecule, wherein preferably, the method further comprises adding a 5'Cap to the 5' end of the RNA molecule.

23. A delivery vehicle, comprising the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 16, or the vector according to claim 19, wherein the delivery vehicle is preferably a cationic lipid delivery particle or a lipid nanoparticle.

24. A pharmaceutical composition, comprising a pharmaceutically acceptable carrier, diluent, or excipient, and any one selected from the group consisting of the following or any combination thereof:
the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 16, the vector according to claim 19, and the delivery vehicle according to claim 23.

25. A product or kit, comprising any one selected from the group consisting of the following or any combination thereof:
the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 19, the delivery vehicle according to claim 23, and the pharmaceutical composition according to claim 24.

26. Use of the nucleic acid construct according to any one of claims 1-7 and 17 or the RNA molecule according to any one of claims 8-15 and 18 for increasing an expression level of a protein expressed by the ORF, or in the preparation of a product for increasing the expression level of the protein expressed by the ORF.

27. Use of the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 16, the delivery vehicle according to claim 23, and/or the pharmaceutical composition according to claim 24, in the manufacture of a medicament for treating and/or preventing a disease, wherein the disease is selected from the group consisting of ischemic diseases, metabolic syndrome, diabetes and complications thereof, restenosis, and nerve injury,
wherein preferably, the ischemic diseases are selected from the group consisting of coronary artery disease (CAD), peripheral artery disease (PAD), myocardial infarction, limb ischemia, thrombosis angiitis obliterans (TAO), and diabetic artery obliterans (DAO); more preferably, the limb ischemia is lower limb ischemia; most preferably, the limb ischemia is critical limb ischemia (CLI);
preferably, the diabetes and complications thereof are selected from the group consisting of diabetic peripheral neuropathy, diabetic foot ulcer (DFU), and diabetic artery obliterans (DAO);
preferably, the restenosis is selected from the group consisting of post-operative restenosis and post-perfusion restenosis;
preferably, the nerve injury is selected from the group consisting of neurodegenerative diseases, traumatic nerve injury, and peripheral neuropathy; more preferably, the neurodegenerative diseases are selected from the group consisting of amyotrophic lateral sclerosis (ALS), Parkinson's disease, and dementia, and the peripheral neuropathy is diabetic peripheral neuropathy.

28. Use of the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 16, the delivery vehicle according to claim 23, and/or the pharmaceutical composition according to claim 24 in the manufacture of a medicament for promoting growth and/or migration of endothelial cells.

29. Use of the nucleic acid construct according to any one of claims 1-7 and 17, the RNA molecule according to any one of claims 8-15 and 18, the polynucleotide according to claim 16, the delivery vehicle according to claim 23, and/or the pharmaceutical composition according to claim 24 in the manufacture of a medicament for promoting angiogenesis.