Claims

1. An aptamer that binds to FGF2, which comprises a nucleotide sequence represented by the following formula (1) (wherein uracil is optionally thymine), and which is the following (a) or (b):

$N^1GGAN^2ACUAGGGCN^3UUAAN^4GUN^5ACCAGUGUN^6$ (formula 1)

N^1 and N^6 are each independently any 0 to 10 bases,

N^2, N^3, N^4 and N^5 are independently any one base,

(a) an aptamer wherein, in the nucleotides contained in the aptamer,

(i) the 2'-position of the ribose of each pyrimidine nucleotide is a fluorine atom,

(ii) the 2'-position of the ribose of each purine nucleotide is a hydroxy group;

(b) the aptamer of (a), wherein

(i) the fluorine atom at the 2'-position of the ribose of each pyrimidine nucleotide is independently unsubstituted, or substituted by an atom or group selected from the group consisting of a hydrogen atom, a hydroxy group and a methoxy group,

(ii) the hydroxy group at the 2'-position of the ribose of each purine nucleotide is independently unsubstituted, or substituted by an atom or group selected from the group consisting of a hydrogen atom, a methoxy group and a fluorine atom.

2. The aptamer according to claim 1, wherein

N^1 is G, GG, AG, C or gap,

N^2 is A or U,

N^3 is G, C or A,

N^4 is G, C or U,

N^5 is G or U, and

N^6 is $UUCN^{61}$ or $AGUCN^{62}$ wherein N^{61} and N^{62} are each independently any 0 to several bases.

3. The aptamer according to claim 1 or 2, comprising a nucleotide sequence represented by the following formula (2) or (3):

GGGAAACUAGGGCGUUAACGUGACCAGUGUUUCN^{61} (formula 2)

N^{1}GGAUACUAGGGCAUUAAUGUUACCAGUGUAGUCN^{62} (formula 3).

4. The aptamer according to any one of claims 1 to 3, comprising a nucleotide sequence shown in SEQ ID NO: 2 or 7.

5. The aptamer according to any one of claims 1 to 3, comprising a nucleotide sequence shown in SEQ ID NO: 1, 3, 4, 5, 6, 8, 10 or 11.

6. The aptamer according to any one of claims 1 to 5, wherein 1 to 10 nucleotides are substituted, deleted, inserted or added, which is

(a) an aptamer wherein, in the nucleotides contained in the aptamer,

(i) the 2'-position of ribose of each pyrimidine nucleotide is a fluorine atom,

(ii) the 2'-position of the ribose of each purine nucleotide is a hydroxy group;

(b) the aptamer of (a), wherein

(i) the fluorine atom at the 2'-position of the ribose of each pyrimidine nucleotide is independently unsubstituted, or substituted by an atom or group selected from the group consisting of a hydrogen atom, a hydroxy group and a methoxy group,

(ii) the hydroxy group at the 2'-position of the ribose of each purine nucleotide is independently unsubstituted, or substituted by an atom or group selected from the group consisting of a hydrogen atom, a methoxy group and a fluorine atom.

7. The aptamer according to any one of claims 1 to 6, which has a nucleotide length of not more than 45.

8. The aptamer according to any one of claims 1 to 7, which inhibits binding of FGF2 and an FGF receptor.

9. The aptamer according to any one of claims 1 to 8, wherein at least one nucleotide is modified.

10. A complex comprising the aptamer according to any one of claims 1 to 9 and a functional substance.

11. The complex according to claim 10, wherein the functional substance is an affinity substance, a labeling substance, an enzyme, a drug delivery vehicle or a drug.

12. A medicament comprising the aptamer according to any one of claims 1 to 9 or the complex according to claim 10 or 11.

13. A medicament for the treatment or prophylaxis of a disease accompanied by angiogenesis, bone-articular disease or pain, comprising the aptamer according to any one of claims 1 to 9 or the complex according to claim 10 or 11.

14. The aptamer according to any one of claims 1 to 9 or the complex according to claim 10 or 11, for use for the treatment or prophylaxis of a disease accompanied by angiogenesis, bone-articular disease or pain.

15. Use of the aptamer according to any one of claims 1 to 9 or the complex according to claim 10 or 11, in the production of a medicament for the treatment or prophylaxis of a disease accompanied by angiogenesis, bone-articular disease or pain.