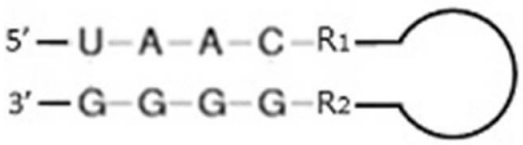
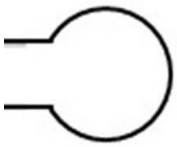
Claims

1. An aptamer that binds to and inhibits the activity of chymase, and comprises a potential secondary structure represented by the formula (1) with a base length of 28 to 89 (uracil is optionally thymine):



(1)

wherein



(1')

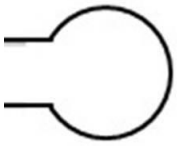
in the formula (1) is a stem-loop partial structure with a base length of the stem-loop is 4 to 21, and R_1 and R_2 are each any one base.

2. The aptamer according to claim 1, wherein a combination of R_1 and R_2 is A/U, C/G, A/C or G/U (uracil is optionally thymine).

3. The aptamer according to claim 1 or 2, wherein at least one of pyrimidine nucleotides is modified or altered.

4. The aptamer according to any one of claims 1 to 3, wherein U and/or C in the sequence UAACR_1 are/is modified or altered.

5. The aptamer according to any one of claims 1 to 4, wherein a sequence of N_1 or the stem-loop partial structure represented by



(1')

is UUGU, CUGG or AAUU (uracil is optionally thymine).

6. The aptamer according to claim 1, comprising the nucleotide sequences of the following :
a nucleotide sequence selected from any of SEQ ID NOs: 1 - 11 and 14 - 33 (uracil is optionally thymine).

7. The aptamer according to claim 6, wherein at least one nucleotide contained in the aptamer is modified or altered.

8. The aptamer according to claim 1, wherein a hydroxyl group at the 2'-position of ribose of each pyrimidine nucleotide contained in the aptamer is the same or different and unsubstituted or substituted by an atom or a group selected from the group consisting of a hydrogen atom, a fluorine atom and a methoxy group.

9. The aptamer according to claim 1, wherein the hydroxyl group at the 2'-position of ribose of each purine nucleotides contained in the aptamer is the same or different and unsubstituted or substituted by an atom or a group selected from the group consisting of a hydrogen atom, a fluorine atom and a methoxy group.

10. A complex comprising the aptamer and a functional substance according to any one of claims 1 to 9, wherein the functional substance is biotin, streptavidin, a polynucleotide possessing affinity for a target complementary sequence, an antibody, glutathione sepharose, histidine, a fluorescent label, a luminescent label, a radioisotope, an enzyme, a drug delivery

vehicle, a drug or a toxin.

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

12. The medicament according to claim 11 that is a therapeutic drug for a disease involving organ or tissue fibrosis, or a circulatory disease.

13. The medicament according to claim 11 that is a therapeutic drug for fibrosis.

14. A method for detecting chymase in vitro, comprising using the aptamer according to any one of claims 1 to 9 or the complex according to claim 10.