CLAIMS:

1. A cyclic peptide consisting of an amino acid sequence Ala-Val-MePhe-Val-Trp-Asn-Tyr-Tyr-Ile-Ile-K(MePEG4c)-Arg-Phe-MeTyr-Cys (SEQ ID NO: 1), or a peptide which is a cyclic peptide, having hTfR binding activity, consisting of an amino acid sequence having one or more substitutions selected from the following groups (I) to (XI) in the amino acid sequence set forth in SEQ ID NO:1:

(I) substitution of the 1st alanine residue of SEQ ID NO: 1 for a MeA residue;

(II) substitution of the 3rd N-methylphenylalanine residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of MeF3C, MeF4F, Me3Py, Me4Py and MeF3COO;

(III) substitution of the 5th tryptophan residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of W5C, MeW, W1aa and W7N;

(IV) substitution of the 6th asparagine residue of SEQ ID NO: 1 for alanine or Ndm;

(V) substitution of the 7th tyrosine residue of SEQ ID NO: 1 for3Py6NH2;

(VI) substitution of the 8th tyrosine residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of 4Py, F4OMe, F4aao, 3Py, and F4aao which may have a linker;

(VII) substitution of the 10th isoleucine residue of SEQ ID NO: 1 for E;

(VIII) substitution of the 11th K(MePEG4c) residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of R, MeR, K(Mecar), Kmor, K which may have a linker, E(Glucamine), QhEt, Qpipzaa, Q which may have a linker, and E which may have a linker;

(IX) substitution of the 12th arginine residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of da, dr, A4paa, QhEt, Qpipzaa, E(Glucamine), K(Mecar), Kmor, KdMe, KCOpipzaa, Q which may have a linker, E which may have a linker and K which may have a linker;

(X) substitution of the 13th phenylalanine of SEQ ID NO: 1 for one amino acid selected from the group consisting of Y, 4Py, F3COO which may have a linker and E which may have a linker; and

(XI) substitution of the 14th N-methyltyrosine residue of SEQ ID NO: 1 for one amino acid selected from the group consisting of Me3Py, MeF4COO which may have a linker and MeF3COO which may have a linker.

2. The peptide according to claim 1, wherein the peptide comprises an amino acid sequence satisfying at least one of the following:

(I) the 1st amino acid of SEQ ID NO: 1 is alanine residue; and

(II) the 6th amino acid of SEQ ID NO: 1 is asparagine residue.

3. The peptide according to claim 1,

wherein the peptide consists of an amino acid sequence moiety which comprises the amino acid sequence set forth in any one of SEQ ID NOs: 1–159, 162–164, 169–183, 185–205 and 207–241, or a conjugate of the 1st to 15th amino acid sequence of the amino acid sequence set forth in any one of SEQ ID NOs: 1–159, 162–164, 169–183, 185–205 and 207–241 with a linker, wherein the amino acid sequence moiety has a cyclic structure.

4. The peptide according to claim 1, wherein a linker is attached to the 8th, 11th, 12th, 13th, 14th or 15th amino acid residue of SEQ ID NO: 1.

5. The peptide according to claim 4, wherein a linker is attached to the 15th amino acid residue of the amino acid sequence set forth in any one of SEQ ID NOs: 1–159, 162–164, 169–183, 185–205 and 207–241.

6. The peptide according to claim 4, wherein the linker is:

polyethylene glycol (PEG): or

a linker consisting of an amino acid sequence set forth in any one of SEQ ID NOs: 242 to 253.

7. A complex comprising the peptide according to claim 4 and a substance bound to the linker.

8. The complex according to claim 7, wherein the linker consists of a sequence set forth in any one of SEQ ID NOs: 242 to 253 and 263 to 394.

9. The complex according to claim 7, wherein the linker is polyethylene glycol (PEG).

10. A composition comprising the peptide according to any one of claims 1 to 6.

11. A composition for pharmaceutical or diagnostic use comprising the peptide according to any one of claims 1 to 6.

12. A composition comprising the complex according to claim 7.

13. A composition for pharmaceutical or diagnostic use comprising the complex according to claim 7.

14. A method for manufacturing a composition for pharmaceutical or diagnostic use, comprising a process of obtaining the complex according to claim 7.

15. The method according to claim 14, wherein the linker is:

polyethylene glycol (PEG); or

a linker consisting of an amino acid sequence set forth in any one of SEQ ID NOs: 242 to 253 and 263 to 394.

16. A test method for a peptide, comprising testing the peptide according to claim 1 for at least one of:

a) solubility in a solvent;

b) binding ability to hTfR;

c) toxicity to a cell and/or a tissue; and

d) toxicity to experimental animal.