binding activity of not less than 50% after a treatment in 60% aprotic polar organic solvent for 30 min, compared with that of before the treatment.

[Embodiment 4]

The modified biotin-binding protein according to embodiment 3, wherein the aprotic polar organic solvent is dimethyl sulfoxide.

[Embodiment 5]

The modified biotin-binding protein according to any one of embodiments 1 to 4, wherein the modified biotin-binding protein comprises an amino acid having an identity of not less than 90% to the amino acid sequence of SEQ ID NO: 2.

[Embodiment 6]

The modified biotin-binding protein, wherein an asparagine residue at position 115 of SEQ ID NO: 2 is replaced with cysteine (TM2 N115C).

[Embodiment 7]

A support to which the protein according to any one of embodiments 1 to 6 is immobilized.

[Embodiment 8]

A nucleic acid encoding the protein according to any one of embodiments 1 to 6.

[Embodiment 9]

A vector containing the nucleic acid according to embodiment 8.

[Embodiment 10]

A method for separation, concentration, capture, purification, and/or detection of the protein according to any one of embodiments 1 to 6, which comprises the following steps:

1) heat-treating a sample containing the protein at a temperature of at least 90°C for at least 10 min; and

2) collecting the protein which has not been heat-denatured in step 1) to thereby separate, concentrate, capture, or purify the protein, and/or detect the ~~substance~~protein.

[Embodiment 11]

A method for separation, concentration, capture, purification and/or detection of a

at least 10 min; and

2) collecting the protein which does not receive heat-denature in step 1) to thereby separate, concentrate, capture, or purify the protein, and/or detect the ~~substance~~protein.

11. A method for separation, concentration, capture, purification and/or detection of a biotin-linked substance, which comprises the following steps:

1) contacting the support according to Claim 7 with a biotin-linked substance, whereby the biotin-linked substance is bound to the support;

2) washing off contaminants which are not bound to the support with a solution containing 60% to 80% of aprotic polar organic solvent; and

3) collecting the biotin-linked substance which is bound to the support to thereby separate, concentrate, capture or purify the substance and/or detect the substance.

12. The method according to Claim 11, wherein the aprotic polar organic solvent is dimethyl sulfoxide.