

ABSTRACT

The present invention provides a modified biotin-binding protein comprising an amino acid sequence represented by SEQ ID NO: 2 or its modified sequence and having a biotin-binding activity and replacement selected from the group consisting of:

- 1) replacement of the 36th serine residue of SEQ ID NO: 2 with an amino acid residue that does not form a hydrogen bond;
- 2) replacement of the 80th tryptophan residue of SEQ ID NO: 2 with a hydrophilic amino acid residue;
- 3) replacement of the 116th aspartic acid residue of SEQ ID NO: 2 with an amino acid residue that does not form a hydrogen bond;
- 4) replacement of the 46th proline residue of SEQ ID NO: 2 with a threonine, serine, or tyrosine residue and replacement of the 78th threonine residue of SEQ ID NO: 2 with an amino acid residue that does not form a hydrogen bond;
- 5) replacement of the 46th proline residue of SEQ ID NO: 2 with a threonine, serine, or tyrosine residue and replacement of the 116th aspartic acid residue of SEQ ID NO: 2 with an amino acid that does not form a hydrogen bond; and
- 6) replacement of the 46th proline residue of SEQ ID NO: 2 with a threonine, serine, or tyrosine residue, replacement of the 78th threonine residue of SEQ ID NO: 2 with an amino acid residue that does not form a hydrogen bond, and replacement of the 116th aspartic acid residue of SEQ ID NO: 2 with an amino acid that does not form a hydrogen bond.