The present inventors have made intensive efforts to increase the production of O-succinyl homoserine, and as a result, they found a protein having O-succinyl homoserine-synthesizing activity, thereby completing the present disclosure.

[Technical Solution]

In one aspect, the present disclosure refers to a polypeptide having O-succinyl homoserine transferase activity, the polypeptide comprises SEQ ID NO: 1, wherein the amino acid at position 313 is substituted to arginine, cysteine, isoleucine or lysine. In another aspect, the present disclosure refers to a polynucleotide encoding the polypeptide having O-succinyl homoserine transferase activity of as disclosed herein. In yet another aspect, the present disclosure refers to an O-succinyl homoserine-producing microorganism of the genus *Corynebacterium*, wherein the polypeptide as described herein having O-succinyl homoserine transferase activity or a variant polypeptide thereof is comprised or over-expressed. In yet a further aspect, the present disclosure refers to a method of producing O-succinyl homoserine, the method comprising the steps of: culturing the O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* as disclosed herein in a medium; and isolating or collecting O-succinyl homoserine from the microorganism cultured in the culturing step or the medium. In still another aspect, the present disclosure refers to a method of producing L-methionine, the method comprising the steps of: (a) culturing the O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* as disclosed herein in a medium; and (b) reacting the O-succinyl homoserine with sulfide.

An object of the present disclosure is to provide a polypeptide having O-succinyl

Claims

1. A polypeptide having O-succinyl homoserine transferase activity, the polypeptide comprises SEQ ID NO: 1, wherein the amino acid at position 313 is substituted to arginine, cysteine, isoleucine or lysine.

2. The polypeptide having O-succinyl homoserine transferase activity of claim 1, wherein the polypeptide comprises any one amino acid sequence selected from the group consisting of amino acid sequences of SEQ ID NO: 59, SEQ ID NO: 67, SEQ ID NO: 75, and SEQ ID NO: 81.

3. A polynucleotide encoding the polypeptide having O-succinyl homoserine transferase activity of claim 1.

4. The polynucleotide of claim 3, wherein the polynucleotide comprises any one nucleotide sequence selected from the group consisting of nucleotide sequences of SEQ ID NO: 60, SEQ ID NO: 68, SEQ ID NO: 76, and SEQ ID NO: 82.

5. An O-succinyl homoserine-producing microorganism of the genus *Corynebacterium*, wherein the polypeptide of claim 1 having O-succinyl homoserine transferase activity or a variant polypeptide thereof is comprised or over-expressed.

6. The O-succinyl homoserine-producing microorganism of the genus

Corynebacterium of claim 5, wherein aspartokinase activity is further enhanced as compared with a non-variant microorganism.

7. The O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* of claim 5, wherein the microorganism of the genus *Corynebacterium* is *Corynebacterium glutamicum*.

8. The O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* of claim 5, wherein activity of one or more selected from the group consisting of cystathionine synthase, O-acetyl homoserine (thiol)-lyase, and homoserine kinase is inactivated.

9. The O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* of claim 5, wherein aspartokinase activity is further enhanced as compared with a non-variant microorganism, and activity of one or more selected from the group consisting of cystathionine synthase, O-acetyl homoserine (thiol)-lyase, and homoserine kinase is inactivated.

10. A method of producing O-succinyl homoserine, the method comprising the steps of:

culturing the O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* of any one of claims 5 to 9 in a medium; and

isolating or collecting O-succinyl homoserine from the microorganism cultured in the culturing step or the medium.

11. A method of producing L-methionine, the method comprising the steps of:

(a) culturing the O-succinyl homoserine-producing microorganism of the genus *Corynebacterium* of any one of claims 5 to 9 in a medium; and

(b) reacting the O-succinyl homoserine with sulfide.

12. The method of producing L-methionine of claim 11, further comprising the step of isolating or collecting O-succinyl homoserine from the microorganism cultured in the step (a) or the medium.

13. The method of producing L-methionine of claim 11, further comprising the step of isolating or collecting L-methionine which is produced by reacting O-succinyl homoserine with sulfide in the step (b).