CLAIMS

1. A method for producing an L-amino acid by reacting an enantiomeric mixture of an N-succinyl amino acid with L-succinylase,

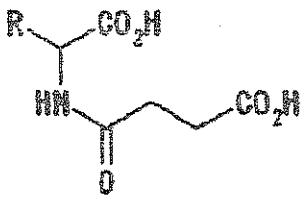
the reaction being performed in the presence of N-acylamino acid racemase and with precipitating the produced L-amino acid.

2. The method according to claim 1,

wherein the L-amino acid has a dissolved concentration of 1% by weight or lower

3. The method according to claim 1 or 2,

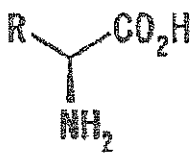
wherein the N-succinyl amino acid is represented by formula (I):



(I)

wherein R represents an optionally substituted C1 to C20 alkyl group, an optionally substituted C2 to C20 alkenyl group, an optionally substituted C2 to C20 alkynyl group, an optionally substituted C4 to C20 aryl group, or an optionally substituted C5 to C20 aralkyl group; and

the L-amino acid is represented by formula (II):



(II)

wherein R is the same as defined above.

4. The method according to claim 3,

wherein R in formula (I) and formula (II) is a 4-bromobenzyl group, a 3-fluorobenzyl group, a naphthylmethyl group, an indanyl group, or a 6-heptenyl group.

5. The method according to any one of claims 1 to 4,

wherein the N-acylamino acid racemase is derived from a microorganism of the genus Geobacillus or Thermus, and the L-succinylase is derived from a microorganism of the genus Geobacillus.

6. The method according to claim 5,

wherein the N-acylamino acid racemase is derived from Geobacillus kaustophilus or Thermus thermophilus, and the L-succinylase is derived from Geobacillus kaustophilus.

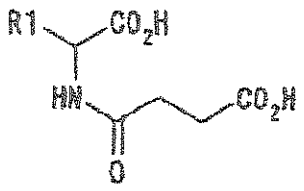
7. The method according to claim 6,

wherein the N-acylamino acid racemase is derived from Geobacillus kaustophilus NBRC 102445 or Thermus thermophilus HB8, and the L-succinylase is derived from Geobacillus kaustophilus NBRC 102445.

8. The method according to any one of claims 1 to 4,

wherein a transformant transformed by a vector that contains DNA encoding the N-acylamino acid racemase and DNA encoding the L-succinylase is used as a source of the N-acylamino acid racemase and the L-succinylase.

9. An N-succinyl amino acid represented by formula (III) or a salt thereof:



(III)

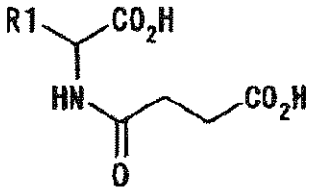
wherein R1 represents an optionally substituted C5 to C20 alkyl group, an optionally substituted C5 to C20 alkenyl group, an optionally substituted C2 to C20 alkynyl group, an optionally substituted indanyl group, an optionally substituted naphthylmethyl group, a fluorobenzyl group, a chlorobenzyl group, or a bromobenzyl group.

10. The N-succinyl amino acid or the salt thereof according to claim 9,

wherein R in formula (III) is a 4-bromobenzyl group, a 3-fluorobenzyl group, a 2-naphthylmethyl group, a 2-indanyl group, or a 6-heptenyl group.

CLAIMS

1. An N-succinyl amino acid represented by formula (III) or a salt thereof:



(III)

wherein R1 represents an optionally substituted C5 to C20 alkyl group, an optionally substituted C5 to C20 alkenyl group, an optionally substituted C2 to C20 alkynyl group, an optionally substituted indanyl group, an optionally substituted naphthylmethyl group, a fluorobenzyl group, a chlorobenzyl group, or a bromobenzyl group.

2. The N-succinyl amino acid or the salt thereof according to claim 9,

wherein R in formula (III) is a 4-bromobenzyl group, a 3-fluorobenzyl group, a 2-naphthylmethyl group, a 2-indanyl group, or a 6-heptenyl group.