Claims

[Claim 1]

A method for producing a rebaudioside D-containing crystallized product by use of a roughly purified product obtained by roughly purifying an extract from a stevia plant, wherein

a total steviol glycoside content of the roughly purified product is 50 to 95% by mass and the roughly purified product contains at least rebaudioside A and rebaudioside D and a rebaudioside A content of the roughly purified product is 20 to 70% by mass,

the method comprising:

a step of mixing the roughly purified product in a solvent containing methanol or ethanol such that a degree of supersaturation at 10°C of rebaudioside D is 10 or more and a degree of supersaturation at 10°C of rebaudioside A is 18 or less, to prepare a solution for crystallization, and

a step of cooling the solution for crystallization with stirring, to precipitate rebaudioside D, and wherein

the rebaudioside D-containing crystallized product contains more rebaudioside D than rebaudioside A.

[Claim 2]

The production method according to claim 1, wherein the total steviol glycoside corresponds to rebaudioside A, rebaudioside B, rebaudioside C, rebaudioside D, stevioside, rebaudioside F and rebaudioside M.

[Claim 3]

The production method according to claim 1 or 2, wherein a content of rebaudioside D is 2 to 70% by mass in the roughly purified product.

[Claim 4]

The production method according to any one of claims 1 to 3, wherein a concentration of the methanol or ethanol in the solvent is 99.9% by mass or less.

[Claim 5]

The production method according to any one of claims 1 to 4, wherein the solvent is kept at a temperature of 40 to 80°C in mixing of the roughly purified product.

[Claim 6]

The production method according to any one of claims 1 to 5, wherein rebaudioside D is used as a seed crystal.

[Claim 7]

The production method according to any one of claims 1 to 6, wherein the solution for crystallization is cooled to a temperature of 35°C or less with stirring, to precipitate rebaudioside D.

[Claim 8]

The production method according to any one of claims 1 to 7, wherein the solution for crystallization is cooled at a rate of 0.002 to 1.37°C/min with stirring, to precipitate rebaudioside D.

[Claim 9]

The production method according to any one of claims 1 to 8, wherein the solution for crystallization is

cooled for a period of 1 to 48 hours with stirring, to precipitate rebaudioside D.

[Claim 10]

The production method according to any one of claims 1 to 9, wherein the roughly purified product is obtained by a method comprising

an extraction step of extracting a dry leaf of a stevia plant with a solvent to obtain an extract,

a solid-liquid separation step of subjecting the extract to a solid-liquid separation treatment to obtain a clarified liquid,

an flocculation step of adding a coagulant to the clarified liquid for flocculation, to obtain a treatment liquid,

a resin purification step of treating the treatment liquid with a hydrophobic porous resin, and

a concentration step of concentrating a solution after purification with the resin.

[Claim 11]

The production method according to any one of claims 1 to 10, further comprising a step of separating rebaudioside D precipitated and a liquid phase, and drying rebaudioside D separated.

[Claim 12]

The production method according to any one of claims 1 to 10, further comprising

a step of separating and drying rebaudioside D precipitated, to obtain a primary crystallized product,

a step of mixing the primary crystallized product in a solvent containing methanol or ethanol such that a degree of supersaturation at 10°C of rebaudioside D is 10 or more and a degree of supersaturation at 10°C of rebaudioside A is 18 or less, to prepare a primary crystallized product-dissolved liquid,

a step of cooling the primary crystallized product-dissolved liquid with stirring, to precipitate rebaudioside D, and

a step of separating and drying rebaudioside D precipitated.

[Claim 13]

The production method according to any one of claims 1 to 12, wherein a ratio of rebaudioside D to the total steviol glycoside in the rebaudioside D-containing crystallized product is 35 to 95% by mass.

[Claim 14]

The production method according to claim 13, wherein a ratio of rebaudioside A to the total steviol glycoside in the rebaudioside D-containing crystallized product is 10 to 50% by mass.

[Claim 15]

The production method according to any one of claims 1 to 14, wherein a ratio of rebaudioside D crystallized, to rebaudioside D contained in the roughly purified product, in the case of single crystallization, is 70 to 99% by mass.

[Claim 16]

A method for producing a food or drink product comprising adding the rebaudioside D-containing crystallized product produced by the production method according to any one of claims 1 to 15.

[Claim 17]

The method according to claim 16, wherein the food or drink product is a drink.