CLAIMS

1. A method of inhibiting isomerization of a reducing saccharide in an aqueous solution containing said reducing saccharide upon a thermal treatment for sterilizing said aqueous saccharide solution, the method comprising the step of acidifying the aqueous saccharide solution prior to ~~and/or in the course of~~ the thermal treatment, wherein the aqueous saccharide solution is acidified by adding at least one acid to said aqueous saccharide solution to a pH having a value of between 1 to 6; and wherein the thermal treatment comprises heating the aqueous saccharide solution to a temperature in the range of 115 °C to 150 °C and keeping the temperature for up to 60 minutes; autoclaving the aqueous saccharide solution at 121.1 °C for 15 to 30 minutes; heating the aqueous solution to a temperature of 130 °C to 150 °C and holding the temperature for up to 5 minutes; or subjecting the aqueous solution to a temperature of between 71.5 °C to 74 °C for 15 to 30 seconds.

2. The method according to claim 1, wherein the aqueous saccharide solution is acidified ~~to a pH having a value of between 1 to 6,preferably~~ to a pH having a value of between 2 to 5, and more preferably to a pH having a value of between 3 to 4.

~~3. The method according to claim 1 or 2, wherein the aqueous saccharide solution is acidified by adding at least one acid to said aqueous saccharide solution.~~

~~4.~~3. The method according to claim 1 or ~~2~~3, wherein the acid is an inorganic acid, preferably selected from the group consisting of hydrochloric acid, sulfuric acid, sulfurous acid, phosphoric acid, boric acid, hydrofluoric acid, hydrobromic acid, perchloric acid, hydroiodic acid and carbonic acid.

~~5.~~4. The method according to claim 1 or ~~2~~3, wherein the acid is an organic acid, preferably selected from the group consisting of monocarboxylic acids, dicarboxylic acids, and tricarboxylic acids.

~~6.~~5. The method according to any one of claims 1 to ~~4~~5, wherein the reducing saccharide is selected from the group consisting of aldoses, disaccharides and oligosaccharides, preferably a disaccharide selected from the group consisting of lactose and maltose.

~~7. The method according to any one of claims 1 to 6, wherein the thermal treatment comprises exposing the acidified aqueous solution to a temperature in the range of 30 °C to 150 °C.~~

~~8. A thermally treated aqueous solution containing at least one reducing saccharide, wherein the aqueous solution is obtained by a method according to any one of claims 1 to 7, wherein the thermally treated aqueous solution is sterile.~~

~~9. The thermally treated aqueous solution according to claim 8, wherein the reducing saccharide is lactose, preferably present in a concentration of ≥ 10 mM, preferably in a concentration of ≥ 100 mM, more preferably in a concentration of ≥ 0.66 M, and most preferably in a concentration of ≥ 1 M.~~

6. Use of a ~~thermally treated~~sterile aqueous solution containing at least one reducing saccharide obtained by a method as claimed in any one of claims 1 to 5 ~~according to claim 8 or 9~~ , in a ~~A~~ method of biotechnological production of a human milk oligosaccharide ~~biological product~~, the method comprising~~es~~ the steps of:
- providing at least one cell that is capable of producing the human milk oligosaccharide~~biological product~~;
- cultivating the at least one cell in a fermentation broth containing and/or being supplemented with the ~~thermally treated~~sterile aqueous solution, wherein the reducing saccharide is present in the sterile solution in a concentration of ≥ 0.66 M [previous claim 9], ~~according to any one of claims 8 to 9~~ for the at least one cell to produce the human milk oligosaccharide~~biological product~~; and
- optionally purifying the human milk oligosaccharide ~~biological product~~ from the fermentation broth.~~biotechnological production process for producing a biological product.~~

7. The use according to claim 6, wherein the reducing saccharide is present in the sterile aqueous solution in a concentration of ≥ 1 M.

~~10. The use according to claim 10, wherein the biotechnological process is selected from the group consisting of a biocatalytic production process and a fermentative production process.~~

~~11. The use according to claim 11 for a fermentative production of a human milk oligosaccharide, wherein the thermally treated aqueous solution containing at least one reducing saccharide is a wet heat sterilized aqueous solution containing lactose.~~

~~12.~~1. ~~A method of biotechnological production of a biological product, the method comprises the steps of:~~

- ~~providing at least one cell that is capable of producing the biological product;~~
- ~~cultivating the at least one cell in a fermentation broth containing and/or being supplemented with the thermally treated aqueous solution according to any one of claims 8 to 9 for the at least one cell to produce the biological product; and~~
- ~~optionally purifying the biological product from the fermentation broth.~~

~~13. The method according to claim 13, wherein the biological product is a human milk oligosaccharide, and wherein the thermally treated aqueous solution is a wet heat sterilized aqueous solution containing lactose.~~

~~14.~~8. The ~~method~~ use according to claim ~~13~~6 or 7 ~~or 14~~, wherein the ~~biological product~~human milk oligosaccharide is produced in an amount of ≥ 100 g/L in the fermentation broth, preferably in an amount of ≥ 150 g/L in the fermentation broth, more preferably in an amount of ≥ 200 g/L in the fermentation broth at the end of the fermentation process.

~~15.~~9. ~~A biological product manufactured by a process~~The use according to any one of claims ~~13~~6 to 8 ~~or 14~~, wherein the human milk oligosaccharide ~~biological product~~ is preferably selected from the group consisting of ~~a human milk oligosaccharide, lactosucrose and lactobionic acid, wherein said human milk oligosaccharide is selected from the group consisting of~~ 2'-fucosyllactose, 3-fucosyllactose, 2',3-difucosyllactose, lacto-*N*-triose II, lacto-*N*-tetraose, lacto-*N*-*neo*tetraose, lacto-*N*-fucopentaose I, lacto-*N*-*neo*fucopentaose I, lacto-*N*-fucopentaose II, lacto-*N*-fucopentaose III, lacto-*N*-fucopentaose V, lacto-*N*-*neo*fucopentaose V, lacto-*N*-difucohexaose I, lacto-*N*-difucosylhexaose II, *para*-Lacto-*N*-fucosylhexaose, fucosyl-lacto-*N*-sialylpentaose b, fucosyl-lacto-*N*-sialylpentaose c, fucosyl-lacto-*N*-sialylpentaose c, disialyl-lacto-*N*-fucopentaose, 3-fucosyl-3'-sialyllactose, 3-fucosyl-6'-sialyllactose, lacto-*N*-*neo*difucohexaose I,
3'-sialyllactose, 6'-sialyllactose, sialyllacto-*N*-tetraoses LST-a, LST-b, LST-c, and disialyllacto-*N*-tetraose.