

CLAIMS

1. A non-sporulating *Bacillus* cell for the production of a sialylated oligo-saccharide, wherein said *Bacillus* cell has been genetically engineered to possess a lactose permease, a CMP-NeuNAc biosynthesis pathway and a sialyltransferase.
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2. The *Bacillus* cell according to claim 1, wherein the sporulation capability of the *Bacillus* cell has been impaired by deletion or functional inactivation of one or more of the genes encoding Spo0A, sigma E and sigma F.
3. The *Bacillus* cell according to claim 1 or 2, wherein the lactose permease is *E. coli* LacY or a functional variant thereof.
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4. The *Bacillus* cell according to any one of claims 1 to 3, wherein the CMP-NeuNAc biosynthesis pathway uses GlcN-1P or GlcNAc-6P as intermediate.
5. The *Bacillus* cell according to any one of claims 1 to 4, wherein the CMP-NeuNAc biosynthesis pathway uses a sialic acid salvage pathway.
- 15 6. The *Bacillus* cell according to any one of claims 1 to 5, wherein the sialyltransferase is a lactose-accepting sialyltransferase, preferably a sialyltransferase selected from the group consisting of α -2,3- sialyltransferases, α -2,6-sialyltransferases and α -2,8- sialyltransferases.
- 20 7. The *Bacillus* cell according to any one of claims 1 to 6, wherein said *Bacillus* cell lacks any β -galactosidase activity or possesses reduced β -galactosidase activity as compared to a wild-type progenitor *Bacillus* cell of the same species.

8. The *Bacillus* cell according to claim 7, wherein the *Bacillus* cell has been genetically engineered by deletion or functional inactivation of at least one of the genes selected from the group consisting of *yesZ* and *ganA*.
9. The *Bacillus* cell according to any one of claims 1 to 8, wherein said *Bacillus* cell is a *Bacillus subtilis* cell.
10. The *Bacillus* cell according to any one of claims 1 to 9, for use in the production of 3'-sialylactose, wherein the CMP-NeuNAc biosynthesis pathway uses GlcN-1P as intermediate, and wherein the sialyltransferase is a α -2,3-sialyltransferase.
11. The *Bacillus* cell according to any one of claims 1 to 9, for use in the production of 6'-sialylactose, wherein the CMP-NeuNAc biosynthesis pathway uses GlcN-1P as intermediate, and wherein the sialyltransferase is a α -2,6-sialyltransferase.
12. Use of a *Bacillus* cell according to any one of claims 1 to 11 for the production of a sialylated oligosaccharide.
13. A method for the production of a sialylated oligosaccharide, the method comprising
- providing a non-sporulating *Bacillus* cell as defined in any one of claims 1 to 11;
 - cultivating said *Bacillus* cell in a fermentation broth and under conditions that are permissive for the production of a sialylated oligosaccharide; and optionally
 - retrieving the sialylated oligosaccharide from the medium and/or the *Bacillus* cell.
14. The method according to claim 13, wherein the fermentation broth contains lactose.

15. A sialylated oligosaccharide produced by a method according to claim 13 or 14.
16. Use of a sialylated oligosaccharide according to claim 15 for the manufacture of a nutritional composition, preferably of an infant formula.
- 5 17. A nutritional composition containing a sialylated oligosaccharide according to claim 15.