

Title (en)
PROCESS FOR INHIBITING THE GROWTH OF A CULTURE OF LACTIC ACID BACTERIA, AND OPTIONALLY LYING THE BACTERIAL CELLS, AND USES OF THE RESULTING LYSED CULTURE

Title (de)
VERFAHREN ZUR HEMMUNG VON MILCHSÄUREBAKTERIENWACHSTUM, UND LYSE VON BAKTERIENZELLEN UND ANWENDUNG DIESER LYSIERTEN KULTUR

Title (fr)
PROCEDE D'INHIBITION DE LA CROISSANCE D'UNE CULTURE DE BACTERIES LACTIQUES, ET EVENTUELLEMENT DE LYSE DES CELLULES BACTERIENNES, ET APPLICATIONS DE LA CULTURE LYSEE AINSI OBTENUE

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Abstract (en)
[origin: WO9531562A1] The invention provides a process for inhibiting the growth of a culture of lactic acid bacteria, or a product containing such culture e.g. a cheese product, in which in the cells of the lactic acid bacteria a holin obtainable from bacteriophages of Gram-positive bacteria, esp. from bacteriophages of lactic acid bacteria is produced in situ, the gene encoding said holin being under control of a first regulatable promoter, said holin being capable of exerting a bacteriostatic effect on the cells in which it is produced by means of a system, whereby the cell membrane is perforated, while preferably the natural production of autolysin is not impaired. It is preferable that additionally a lysin obtainable from lactic acid bacteria or their bacteriophages is produced in situ in the cells of the lactic acid bacteria, the gene encoding said lysin being under control of a second regulatable promoter, whereby the produced lysin effects lysis of the cells of the lactic acid bacteria. The second regulatable promoter can be the same as the first regulatable promoter and the genes encoding the holin and the lysin, respectively can be placed under the same regulatable promoter in one operon. Preferably the promoters are regulatable by the food-grade ingredients or parameters. Other uses of the invention include preparing a mixture of peptides which are modified by peptidases freed after the lysis, using the lysed culture as a bactericidal agent against spoiling bacteria or pathogenic bacteria for improving the shelf life of a product containing the lysed culture.

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