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(54) Title: BACTERIAL GLUTAMINE SYNTHETASE AS SELECTION MARKER IN MAMMALIAN CELLS

(57) Abstract: The invention relates to a mammalian expression vector comprising a polynucleotide encoding a bacterial glutamine synthetase as a selection marker and to a nucleic acid and a mammalian host cell encoding said bacterial glutamine synthetase. Particularly, the bacterial glutamine synthetase is derived from bacteria of the order Enterobacterales and the family of Morganellaceae, preferably the bacterial glutamine synthetase is a *Providencia* species glutamine synthetase, optionally further comprises a mutation in position E130 and/or F226 and/or R345A. The invention further relates to methods for preparing a mammalian cell stably expressing a protein of interest and/or a non-coding RNA and to a method for producing a protein in a mammalian cell using said bacterial glutamine synthetase.



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