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(54) Title: SELECTION SYSTEM CONTAINING NON-ANTIBIOTIC RESISTANCE SELECTION MARKER

(57) Abstract: A selection system free of antibiotic resistance genes, which is based on the use of an *araD* gene as a selection marker carried on a vector which is inserted in a bacterial strain deficient of the *araD* gene. The *araD* gene from *E. coli* encodes the L-ribulose-5-phosphate-4-epimerase. A method of selecting the cells transformed with a plasmid, which contains the *araD* gene. The non-antibiotic selection marker makes the system suitable for producing therapeutics. The *araD* gene is not essential for growth of the host but manipulation of it affects the growth under certain selective conditions. Deletion of *araD* leads to accumulation of substance which is toxic to the host but not to humans. The *araD* gene is relatively small and therefore a small plasmid may be constructed, which requires less energy for replication, and leads to increased growth rate and yield.



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