

Title (en)
BINARY VIRAL EXPRESSION SYSTEM IN PLANTS

Title (de)
BINÄRE VIRALE EXPRESSIONSSYSTEME IN PFLANZEN

Title (fr)
SYSTEME BINAIRE D'EXPRESSION VIRALE DANS DES PLANTES

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Abstract (en)
[origin: WO9922003A1] This invention relates to a regulated binary plant viral expression system. It is comprised of two chromosomally-integrated components. One component is a proreplicon, which contains cis-acting viral sequences required for replication and a contains a target gene. The other component is a chimeric trans-acting replication gene comprising a regulated promoter operably-linked to the coding region for a viral replication protein. The proreplicon lacks the replication gene essential for replicon replication, and thus cannot undergo autonomous episomal replication. However, regulated expression of the trans-acting replication protein in plant cells also containing the proreplicon will trigger the release of free replicon from the integrated proreplicon, result in its episomal replication in trans, and result in the expression of the target gene, if present, through gene amplification. The expression system is useful for both production of foreign proteins as well as silencing endogenous genes and transgenes in plant tissue. Tissue-specific expression is controlled by the choice of promoter controlling the transcription of the trans-acting replication gene.

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