

Title (en)  
CO-EXPRESSION OF PROLINE HYDROXYLASES TO FACILITATE HYP-GLYCOSYLATION OF PROTEINS EXPRESSED AND SECRETED IN PLANT CELLS

Title (de)  
COEXPRESSION VON PROLIN-HYDROXYLASEN ZUR ERLEICHTERUNG DER HYP-GLYKOSYLIERUNG VON IN PFLANZENZELLEN EXPRIMIERTEN UND SEZERNIERTEN PROTEINEN

Title (fr)  
CO-EXPRESSION DE PROLINES HYDROXYLASES AFIN DE FACILITER L'HYP-GLYCOSYLATION DE PROTÉINES EXPRIMÉES ET SÉCRÉTÉES DANS DES CELLULES VÉGÉTALES

Publication  
**EP 2084285 A4 20100113 (EN)**

Application  
**EP 07799434 A 20070710**

Priority  
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Abstract (en)  
[origin: WO2008008766A2] Plant cells contain particular proline hydroxylases whose specificity determines which prolines, in a protein expressed therein, are hydroxylated. The resulting hydroxyprolines, in turn, may be glycosylated. It is the presence of glycosylated hydroxyprolines which is the most important determinant of the degree of secretion of the protein. One may modify the proline hydroxylation capabilities of the plant cell by co-expressing in that cell at least one exogenous proline hydroxylase which will hydroxylate at least one proline site in the protein which is not hydroxylated by the endogenous proline hydroxylase, but which, if hydroxylated, can then be glycosylated by the plant cell, resulting in increased Hyp-glycosylation. Moreover, even if the co-expressed exogenous proline hydroxylase doesn't achieve the desired level of Hyp-glycosylation in the native protein, such co-expression may still be used in conjunction with modification of the protein itself to increase the number and/or the likelihood of Hyp-glycosylation sites.

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Citation (search report)  
• [X] WO 2006035442 A2 20060406 - COLLPLANT LTD [IL], et al  
• [DX] MERLE C ET AL: "Hydroxylated human homotrimeric collagen I in Agrobacterium tumefaciens-mediated transient expression and in transgenic tobacco plant", FEBS LETTERS, ELSEVIER, AMSTERDAM, NL, vol. 515, no. 1-3, 27 March 2002 (2002-03-27), pages 114 - 118, XP004347752, ISSN: 0014-5793  
• [DA] BERRA EDURNE ET AL: "The hypoxia-inducible-factor hydroxylases bring fresh air into hypoxia signalling", EMBO REPORTS, vol. 7, no. 1, January 2006 (2006-01-01), pages 41 - 45, XP002558270, ISSN: 1469-221X  
• See references of WO 2008008766A2

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