

Title (en)

METHODS AND MATERIALS FOR MAKING AND USING TRANSGENIC DICAMBA-DEGRADING ORGANISMS

Title (de)

ETHODEN UND MATERIALIEN ZUR HERSTELLUNG UND VERWENDUNG TRANSGENER DICAMBA-ABBAUENDER ORGANISMEN

Title (fr)

METHODES ET MATERIELS POUR PRODUIRE ET UTILISER DES ORGANISMES TRANSGENIQUES DEGRADANT DICAMBA

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Application

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Abstract (en)

[origin: WO9845424A1] The invention provides isolated and at least partially-purified dicamba-degrading enzymes, isolated DNA molecules coding for dicamba-degrading enzymes, DNA constructs coding for dicamba-degrading enzymes, transgenic host cells comprising DNA coding for dicamba-degrading enzymes, and transgenic plants and plant parts comprising one or more cells comprising DNA coding for dicamba-degrading enzymes. Expression of the dicamba-degrading enzymes results in the production of dicamba-degrading organisms, including dicamba-tolerant plants. The invention further provides a method of controlling weeds in a field containing the transgenic dicamba-tolerant plants of the invention and a method of decontaminating a material containing dicamba comprising applying an effective amount of a transgenic microorganism or dicamba-degrading enzyme of the invention to the material. Finally, the invention provides a method of selecting transformed plants and plant cells based on dicamba tolerance and a method of selecting or screening transformed host cells, intact organisms and parts of organisms based on the fluorescence of 3,6-dichlorosalicylic acid produced as a result of dicamba degradation.

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Citation (search report)

- [XY] WANG XIAO-ZHUO ET AL: "A three-component enzyme system catalyzes the O demethylation of the herbicide dicamba in Pseudomonas maltophilia DI-6", APPLIED AND ENVIRONMENTAL MICROBIOLOGY, vol. 63, no. 4, 1 April 1997 (1997-04-01), pages 1623 - 1626, XP002285261, ISSN: 0099-2240
- [XY] WANG XIAO-ZHUO ET AL: "A three component O-demethylase enzyme from Pseudomonas maltophilia catalyzes the first step in degradation of the herbicide, dicamba", ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 95, 1995, & 95TH GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY; WASHINGTON, D.C., USA; MAY 21-25, 1995, pages 441, XP002285262, ISSN: 1060-2011
- [Y] WEEKS DONALD P ET AL: "Characterization of a bacterial system capable of degrading dicamba and evaluation of its potential in the development of herbicide-tolerant crops", JOURNAL OF CELLULAR BIOCHEMISTRY SUPPLEMENT, no. 18 PART A, 1994, & KEYSTONE SYMPOSIUM ON IMPROVED CROP AND PLANT PRODUCTS THROUGH BIOTECHNOLOGY; KEYSTONE, COLORADO, USA; JANUARY 9-16, 1994, pages 91, XP002285263, ISSN: 0733-1959
- See references of WO 9845424A1

Cited by

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WO 9845424 A1 19981015; AU 6948498 A 19981030; AU 741974 B2 20011213; CA 2285676 A1 19981015; CA 2285676 C 20110308; EP 1012257 A1 20000628; EP 1012257 A4 20040818; EP 2325308 A2 20110525; EP 2325308 A3 20110727; JP 2001519663 A 20011023; JP 2009039123 A 20090226; JP 2010187673 A 20100902; KR 100558838 B1 20060310; KR 20010006014 A 20010115; MX 9909086 A 20000831; NO 324769 B1 20071210; NO 994795 D0 19991001; NO 994795 L 19991201; NZ 338093 A 20010629; RU 2226215 C2 20040327

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