

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)

BCH-LMO-SCBD-112719-1

[? Decisions on the LMO ? Risk Assessments](#)

LAST UPDATED: 13 NOV 2017

Living Modified Organism identity

The image below identifies the LMO through its unique identifier, trade name and a link to this page of the BCH. Click on it to download a larger image on your computer. For help on how to use it go to the LMO quick-links page.



CBD

<https://bch.cbd.int/database/record?documentID=112719>

MON-87427-7 X DAS-Ø15Ø7-1 X MON-88Ø17-3
Insect resistant, herbicide tolerant maize



Read barcode or type above URL into internet browser to access information on this LMO in the Biosafety Clearing-House © SCBD 2012

Name

Insect resistant, herbicide tolerant maize

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Transformation event

MON87427 x TC1507 x MON88017

Unique identifier

MON-87427-7 x DAS-Ø15Ø7-1 x MON-88Ø17-3

Developer(s)

- [ORGANIZATION: MONSANTO](#) | [BCH-CON-SCBD-14925-3](#)

ORGANIZATION

Monsanto
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Website: <http://www.monsanto.com>

Description

The stacked maize line MON87427 x MON89034 x TC1507 x MON88017 x 59122 was obtained through the traditional cross breeding of each of the parental organisms to produce a maize that expresses each of EPSPS, Cry3Bb1, Cry1F and PAT genes. The expression of these genes are expected to confer resistance to Lepidoptera and Coleoptera, and tolerant to

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glufosinate herbicide and glyphosate herbicide

Recipient Organism or Parental Organisms

The term “Recipient organism” refers to an organism (either already modified or non-modified) that was subjected to genetic modification, whereas “Parental organisms” refers to those that were involved in cross breeding or cell fusion.

BCH-ORGA-SCBD-246-6 ORGANISM | ZEA MAYS (MAIZE, CORN, MAIZE) |

Crops

BCH-LMO-SCBD-104758-3 LIVING MODIFIED ORGANISM | MON-87427-7 - MAIZE MODIFIED FOR TISSUE SELECTIVE GLYPHOSATE TOLERANCE |

Resistance to herbicides - Glyphosate

BCH-LMO-SCBD-14841-13 LIVING MODIFIED ORGANISM | DAS-Ø15Ø7-1 - HERCULEX™ I MAIZE |

Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths)), Resistance to herbicides (Glufosinate)

BCH-LMO-SCBD-15106-10 LIVING MODIFIED ORGANISM | MON-88Ø17-3 - YIELDGARD™ VT™ ROOTWORM/RR2™ MAIZE |

Resistance to diseases and pests - Insects - Coleoptera (beetles) Resistance to herbicides - Glyphosate

Characteristics of the modification process

Vector

PV-ZMAP1043, PV-ZMIR245, PV-ZMIR39, PHI8999A and PHP17662

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Techniques used for the modification

Cross breeding

Genetic elements construct

P-act1-ORYSA
0.930 kb

I-1_act1-ORYSA
0.460 kb

TP-ctp2-ARATH
0.230 kb

CS-CP4epsps-RHIRD
1.370 kb

T-nos-RHIRD
0.260 kb

P-e35S-CaMV
0.610 kb

L-cab-WHEAT
0.070 kb

I-1_act1-ORYSA
0.460 kb

CS-Cry3Bb1-BACTU
1.960 kb

T-hsp17_3-WHEAT
0.230 kb

P-ubi1-MAIZE
1.980 kb

CS-cry1F-BACTU
1.820 kb

T-orf25-RHIRD
0.720 kb

P-35S-CaMV
0.550 kb

CS-pat-STRVR
0.550 kb

T-35S-CaMV
0.200 kb

P-e35S-CaMV
0.620 kb

I-hsp70-MAIZE
0.800 kb

TP-ctp2-ARATH
0.230 kb

CS-CP4epsps-RHIRD
1.370 kb

T-nos-RHIRD
0.250 kb

Introduced or modified genetic element(s)

Some of these genetic elements may be present as fragments or truncated forms. Please see notes below, where applicable.

BCH-GENE-SCBD-100364-5 RICE ACTIN 1 GENE PROMOTER | (RICE) |

Promoter

BCH-GENE-SCBD-100355-6 RICE ACTIN 1, INTRON | (RICE) |

Intron

BCH-GENE-SCBD-100365-6 CHLOROPLAST TRANSIT PEPTIDE 2 | (THALE CRESS) |

Transit signal

BCH-GENE-SCBD-14979-7 5-ENOLPYRUVYLSHIKIMATE-3-PHOSPHATE SYNTHASE GENE |

Protein coding sequence | Resistance to herbicides (Glyphosate)

BCH-GENE-SCBD-100269-8 NOPALINE SYNTHASE GENE TERMINATOR |

Terminator

BCH-GENE-SCBD-100366-6 CAMV ENHANCED 35S PROMOTER |

Promoter

BCH-GENE-SCBD-100354-6 5' UNTRANSLATED LEADER FROM CHLOROPHYLL A/B-BINDING PROTEIN | (WHEAT) |

Leader sequence

BCH-GENE-SCBD-14993-5 CRY3BB1 | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Coleoptera (beetles))

BCH-GENE-SCBD-100356-6 HEAT SHOCK PROTEIN 17.3 TERMINATOR | (WHEAT) |

Terminator

BCH-GENE-SCBD-100362-7 UBIQUITIN GENE PROMOTER | (MAIZE, CORN) |

Promoter

BCH-GENE-SCBD-14987-8 CRY1F | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

Protein coding sequence | Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths))

BCH-GENE-SCBD-100363-5 ORF25 POLYA TERMINATOR SEQUENCE |

Terminator

BCH-GENE-SCBD-100287-7 CAMV 35S PROMOTER |

Promoter

BCH-GENE-SCBD-15002-4 PHOSPHINOTHRICIN N-ACETYLTRANSFERASE GENE |

Protein coding sequence | Resistance to herbicides (Glufosinate)

BCH-GENE-SCBD-100290-6 CAMV 35S TERMINATOR |

Terminator

BCH-GENE-SCBD-100359-7 HSP70 INTRON | (MAIZE, CORN) |

Intron

Notes regarding the genetic elements present in this LMO

DNA insert from TC1507 vector PHI8999A

TC1507 modified with the insertion of the Cry1F gene to confer resistance to the European corn borer (*Ostrinia nubilalis*). A transformation cassette coding for phosphinothricin (PPT) herbicide tolerance, specifically glufosinate ammonium, was also inserted into the organism.

DNA insert from MON87427, vector PV-ZMAP1043

MON87427 was modified to express the CP4 EPSPS protein which confers tolerance to the herbicide glyphosate. The e35S-hsp70 promoter and intron combination is used to drive the tissue selective expression of the cp4 epsps gene resulting in CP4 EPSPS protein production in vegetative and female reproductive tissue, providing tolerance to glyphosate within these tissues.

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DNA insert from MON88017 vector PV-ZMIR39

MON88017 expresses the cry3Bb1 gene encoding a Coleopteran-specific insecticidal protein to control infestation with corn root worm, and the cp4 epsps gene.

For additional information on this LMO, please refer to the records of the parental LMOs.

LMO characteristics

Modified traits

Resistance to diseases and pests

Insects

Coleoptera (beetles)

Lepidoptera (butterflies and moths)

Resistance to herbicides

Glufosinate

Glyphosate

Common use(s) of the LMO

Food

Feed

Detection method(s)

External link(s)

? [MON-87427-7 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

? [DAS-Ø15Ø7-1 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

? [MON-88Ø17-3 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

Additional Information

Other relevant website addresses and/or attached documents

? [MON-87427-7 x DAS-Ø15Ø7-1 x MON-88Ø17-3 - ISAAA](#) (*English*)

[BCH-LMO-SCBD-112719-1](#)

Further Information

Questions about the Cartagena Protocol on Biosafety or the operation of the Biosafety Clearing-House may be directed to the Secretariat of the Convention on Biological Diversity.

Secretariat of the Convention on Biological Diversity

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