

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-112033-1

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

LAST UPDATED: 15 JUN 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.



DAS-Ø15Ø7-1 X DAS-59122-7 X MON-ØØ81Ø-6
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

<https://bch.cbd.int/database/record?documentID=112033>


Name

Insect resistant, herbicide tolerant maize

EN

Transformation event

TC1507 x 59122 x MON810

Unique identifier

DAS-Ø15Ø7-1 x DAS-59122-7 x MON-ØØ81Ø-6

Developer(s)

- **ORGANIZATION:** DUPONT POINEER | [BCH-CON-SCBD-106199-2](#)

ORGANIZATION

Dupont Poineer
Private sector (business and industry)
Chestnut Run Plaza 720/1S5 974 Centre Road
Wilmington,, Delaware
19805, United States of America

Description

The stacked maize line DAS-Ø15Ø7-1 x DAS-59122-7 x MON-ØØ81Ø-6 was obtained through the traditional cross breeding of each of the parental organisms to produce a maize that expresses each of Cry1F, PAT, Cry34Ab1, Cry35Ab1 and Cry1Ab genes. The expression of these genes are expected to confer resistance to Lepidoptera and Coleoptera, and tolerant to glufosinate herbicide.

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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-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-15165-13 LIVING MODIFIED ORGANISM | DAS-59122-7 - HERCULEX™ RW ROOTWORM PROTECTION MAIZE |

Pioneer Hi-Bred International Inc. | Resistance to diseases and pests (Insects, Coleoptera (beetles)), Resistance to herbicides (Glufosinate)

BCH-LMO-SCBD-14750-19 LIVING MODIFIED ORGANISM | MON-ØØ81Ø-6 - YIELDGARD™ MAIZE |

Resistance to diseases and pests - Insects - Lepidoptera (butterflies and moths)

Characteristics of the modification process

Vector

PHI8999A, PHP17662, PV-ZMBK07 and PV-ZMGT10

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Techniques used for the modification

Cross breeding

Genetic elements construct

P-ubi1-MAIZE 1.990 kb	CS-cry34Ab1-BACTU 0.370 kb	T-pinII-SOLTU 0.320 kb
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P-pox-WHEAT 1.300 kb	CS-cry35Ab1-BACTU 1.150 kb	T-pinII-SOLTU 0.320 kb
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P-ubi1-MAIZE 1.980 kb	CS-cry1F-BACTU 1.820 kb	T-orf25-RHIRD 0.720 kb
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P-35S-CaMV 0.550 kb	CS-pat-STRVR 0.550 kb	T-35S-CaMV 0.200 kb
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P-e35S-CaMV 0.610 kb	I-hsp70-MAIZE 0.800 kb	CS-Cry1Ab-BACTU 3.460 kb
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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-100362-7 UBIQUITIN GENE PROMOTER | (MAIZE, CORN) |

Promoter

BCH-GENE-SCBD-14994-9 CRY34AB1 | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

BCH-GENE-SCBD-100367-4 PROTEINASE INHIBITOR II GENE TERMINATOR | (POTATO) |

Terminator

BCH-GENE-SCBD-100368-6 PEROXIDASE GENE PROMOTER | (WHEAT) |

Promoter

BCH-GENE-SCBD-14995-8 CRY35AB1 | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

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-100366-6 CAMV ENHANCED 35S PROMOTER |

Promoter

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

Intron

BCH-GENE-SCBD-14985-12 CRY1AB | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

Notes regarding the genetic elements present in this LMO

DNA insert from MON810, vectors PV-ZMBK07 and PV-ZMGT10

MON810 contains a truncated portion of a synthetic form of the cry1Ab gene from *Bacillus thuringiensis* subsp. *kurstaki*. Two constructs PV-ZMBK07 and PV-ZMGT10 have been used for transformation, but molecular analyses showed that MON810 does not contain any element from PV-ZMGT10 construct and only the elements from construct PV-ZMBK07 have been integrated into its genome. MON810 contains one integrated DNA consisting of P-e35S, I-Hsp70 and cry1Ab. The terminator of the nopaline synthase (nos) gene was lost due to a truncation at the 3' end of the gene cassette during genome integration and is, therefore, not present in MON810.

DNA insert from 59122 vector PHP17662

The cry34Ab1 and cry35Ab1 genes, isolated from the common soil bacterium *Bacillus thuringiensis* (Bt) strain PS149B1, produce the insect control proteins (delta-endotoxins) Cry34Ab1 and Cry35Ab1. The pat gene was isolated from the soil bacterium *Streptomyces viridochromogenes* and confers tolerance to herbicides containing glufosinate ammonium.

DNA insert from TC1507 vector PHI8999A

The TC1507 line contained the Cry1F and PAT coding sequences and regulatory elements. The Cry1F gene produces insecticidal crystal protein that confers resistance against lepidopteran pests and the PAT gene produces Phosphinothricin N-acetyltransferase which confers tolerance to the glufosinate herbicide.

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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

Lepidoptera (butterflies and moths)

Resistance to herbicides

Glufosinate

Common use(s) of the LMO

Food

Feed

Detection method(s)

External link(s)

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

? [DAS-59122-7 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

? [MON-ØØ81Ø-6 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

Additional Information

Other relevant website addresses and/or attached documents

? [DAS-Ø15Ø7-1 x DAS-59122-7 x MON-ØØ81Ø-6 - ISAAA](#) (*English*)

[BCH-LMO-SCBD-112033-1](#)

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.

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