

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-112129-1

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

LAST UPDATED: 23 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.



SYN-IR162-4 X MON-ØØ6Ø3-6
Insect resistant, herbicide tolerant maize

CBD

<https://bch.cbd.int/database/record?documentID=112129>



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

EN

Transformation event

MIR162 x NK603

Unique identifier

SYN-IR162-4 x MON-ØØ6Ø3-6

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

A stacked maize line SYN-IR162-4 x MON-ØØ6Ø3-6 obtained through conventional breeding of each of the parental organisms. The modifications in these lines confer tolerance to the glyphosate herbicide and resistance to Lepidopteran pests.

EN

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-14776-17](#) LIVING MODIFIED ORGANISM | MON-ØØ6Ø3-6 - ROUNDUP READY™ MAIZE |

Resistance to herbicides - Glyphosate

[BCH-LMO-SCBD-100885-13](#) LIVING MODIFIED ORGANISM | SYN-IR162-4 - AGRISURE™ VIPTERA MAIZE |

Syngenta Crop Protection AG | Resistance to diseases and pests (Insects, Lepidoptera (butterflies and moths))

Characteristics of the modification process

Vector

pNOV1300 and PV-ZMGT32

EN

Techniques used for the modification

Cross breeding

Genetic elements construct

P-act1-ORYSA 0.800 kb	I-1_act1-ORYSA 0.600 kb	TP-ctp2-ARATH 0.200 kb	CS-CP4epsps-RHIRD 1.400 kb	T-nos-RHIRD 0.300 kb
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P-e35S-CaMV 0.600 kb	I-hsp70-MAIZE 0.800 kb	TP-ctp2-ARATH 0.200 kb	CS-CP4epsps-RHIRD 1.400 kb	T-nos-RHIRD 0.300 kb
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P-ubi1-MAIZE 1.990 kb	CS-vip3Aa20-BACTU 2.370 kb	I-9_pepc-MAIZE 0.110 kb	T-35S-CaMV 0.070 kb
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P-ubi1-MAIZE 1.990 kb	CS-pmi-ECOLX 1.180 kb	T-nos-RHIRD 0.250 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-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-100359-7 HSP70 INTRON | (MAIZE, CORN) |

Intron

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

Promoter

BCH-GENE-SCBD-100887-5 VEGETATIVE INSECTICIDAL PROTEIN 3AA20 |

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

BCH-GENE-SCBD-101406-4 PHOSPHOENOLPYRUVATE CARBOXYLASE, INTRON 9 | (MAIZE, CORN) |

Intron

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

Terminator

BCH-GENE-SCBD-15003-7 PHOSPHOMANNOSE ISOMERASE GENE | (BACTERIA) |

Protein coding sequence | Mannose tolerance, Selectable marker genes and reporter genes

Notes regarding the genetic elements present in this LMO

DNA insert from NK603 vector PV-ZMGT32:

59122 x NK603 also contains a form of the plant enzyme

5-enolpyruvylshikimate-3-phosphate synthase (EPSPS) that allows the plant to survive the otherwise lethal application of glyphosate. The glyphosate-tolerant EPSPS gene was isolated from the CP4 strain of the common soil bacterium *Agrobacterium tumefaciens*.

DNA insert from MIR162 vector pNOV1300:

MIR162 maize is transformed with vip3Aa20 gene which encodes the Vip3Aa20 protein that confers resistance against lepidopteran insect pests. Event MIR162 maize also contains the manA gene from *Escherichia coli*, which encodes the selectable marker, phosphomannose isomerase (PMI).

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

EN

LMO characteristics

Modified traits

Resistance to diseases and pests

Insects

Lepidoptera (butterflies and moths)

Resistance to herbicides

Glyphosate

Selectable marker genes and reporter genes

Common use(s) of the LMO

Food

Feed

Detection method(s)

External link(s)

? [SYN-IR162-4 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

? [MON-ØØ6Ø3-6 - EU Reference Laboratory for GM Food and Feed \(EURL-GMFF\)](#) (*English*)

Additional Information

Other relevant website addresses and/or attached documents

? [SYN-IR162-4 x MON-ØØ6Ø3-6 - ISAAA](#) (*English*)

[BCH-LMO-SCBD-112129-1](#)

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**

413 rue Saint-Jacques, suite 800
Montreal, Québec, H2Y 1N9
Canada

Fax: +1 514 288-6588

Email: secretariat@cbd.int