

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-14894-6

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

LAST UPDATED: 25 APR 2013

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.



NMK-89167-6
New Leaf™ Russet Burbank potato

CBD

<https://bch.cbd.int/database/record?documentID=14894>



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

Name

New Leaf™ Russet Burbank potato

EN

Transformation event

BT16

Unique identifier

NMK-89167-6

Developer(s)

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

ORGANIZATION

Monsanto
800 North Lindbergh Blvd.
St. Louis, MO
63167, United States of America
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Website: <http://www.monsanto.com>

Description

Colorado potato beetle resistant potatoes produced by inserting the cry3A gene from *Bacillus thuringiensis*. The neomycin phosphotransferase II (npt II) gene confers resistance to the antibiotic kanamycin is used as a selection marker.

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-12106-6](#) ORGANISM | SOLANUM TUBEROSUM (POTATO, SOLTU) |

Crops

Point of collection or acquisition of the recipient organism or parental organisms

Cultivar: Russet Burbank

EN

Related LMO(s)

[BCH-LMO-SCBD-14788-6](#) | NMK-89675-1 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

[BCH-LMO-SCBD-14790-7](#) | NMK-89812-3 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

[BCH-LMO-SCBD-14895-6](#) | NMK-89175-5 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

[BCH-LMO-SCBD-14901-6](#) | NMK-89593-9 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

[BCH-LMO-SCBD-14906-6](#) | NMK-89601-8 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

[BCH-LMO-SCBD-14913-6](#) | NMK-89906-7 - New Leaf™ Russet Burbank potato | Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Coleoptera (beetles)

Characteristics of the modification process

Vector

PV-STBT02

EN

Techniques used for the modification

Agrobacterium-mediated DNA transfer

Genetic elements construct

P-e35S-CaMV
0.620 kb

CS-Cry3A-BACTU
1.800 kb

T-rbcS_E9-PEA
0.630 kb

T-nos-RHIR
0.260 kb

CS-nptII-EC
0.790 kb

P-35S-CaMV
0.320 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-14989-5](#) CRY3A | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

[BCH-GENE-SCBD-15001-5](#) NEOMYCIN PHOSPHOTRANSFERASE II | (BACTERIA) |

Protein coding sequence | Resistance to antibiotics (Kanamycin)

[BCH-GENE-SCBD-100366-6](#) CAMV ENHANCED 35S PROMOTER |

Promoter

[BCH-GENE-SCBD-101877-5](#) RBCS-E9 GENE TERMINATOR | (GARDEN PEA) |

Terminator

[BCH-GENE-SCBD-100269-8](#) NOPALINE SYNTHASE GENE TERMINATOR

Terminator

[BCH-GENE-SCBD-100287-7](#) CAMV 35S PROMOTER

Promoter

Notes regarding the genetic elements present in this LMO

The coding sequence of the Cry3A gene was modified to plant preferred codons. This resulted in changes to 399 of 1791 nucleotides but there were no changes to the resulting amino acid sequence.

Southern blot analysis indicated that a two copies of the transformation cassette were integrated into the host genome at two independent sites with no detectable rearrangements, insertions or segments of the vector backbone.

EN

LMO characteristics

Modified traits

Resistance to diseases and pests

Insects

Coleoptera (beetles)

Resistance to antibiotics

Kanamycin

Common use(s) of the LMO

Food

Additional Information

Additional Information

Cry proteins, of which Cry3A is only one, act by selectively binding to specific sites localized on the lining of the midgut of susceptible insect species. Following binding, pores are formed that disrupt midgut ion flow causing gut paralysis and eventual death due to bacterial sepsis. Cry3A is insecticidal only when eaten by the larvae of coleopteran insects such as Colorado potato beetle and its specificity of action is directly attributable to the presence of specific binding sites in the target insects.

Other relevant website addresses and/or attached documents

? [NMK-89167-6 - OECD](#) (English)

? [NMK-89167-6 - CERA](#) (English)

? [NMK-89167-6 - Monsanto.pdf](#) (English)

[BCH-LMO-SCBD-14894-6](#)

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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