

Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)

BCH-LMO-SCBD-115563-3

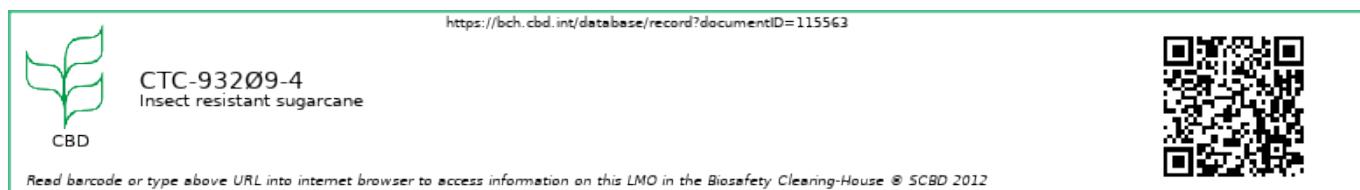
? Decisions on the LMO ? Risk Assessments

LAST UPDATED: 17 FEB 2022

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.



Name

Insect resistant sugarcane

EN

Transformation event

CTC93209

Unique identifier

CTC-93209-4

Developer(s)

- **ORGANIZATION:** CTC - CENTRO DE TECNOLOGIA CANAVIEIRA | [BCH-CON-SCBD-243818-1](#)

ORGANIZATION

CTC - Centro de Tecnologia Canavieira
 Regional economic integration organization
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Description

The sugarcane (*Saccharum sp.*) was modified to express *Bacillus thuringiensis* Cry1Ac with the aim of controlling the sugarcane borer (*Diatraea saccharalis*). The modified sugarcane

EN

also contains a selectable marker, *Escherichia coli* neomycin phosphotransferase II, for kanamycin selection during transformation.

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-100332-4 ORGANISM | *SACCHARUM SP. (SUGAR CANE)*

Crops

Related LMO(s)

BCH-LMO-SCBD-112454-2 | CTC-14117-4 - Sugarcane modified for insect resistance | Dr Wladecir Salles Oliveira Resistance to antibiotics - Kanamycin Resistance to diseases and pests - Insects - Lepidoptera (butterflies and moths)

Characteristics of the modification process

Vector

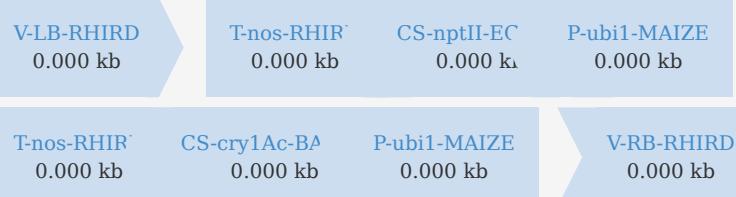
pCTC523

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Techniques used for the modification

Agrobacterium-mediated DNA transfer

Genetic elements construct



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-14986-6 CRY1AC | *BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU*

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

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

Protein coding sequence | Resistance to antibiotics (Kanamycin)

BCH-GENE-SCBD-101415-9 TI PLASMID LEFT BORDER REPEAT

Plasmid vector

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

Terminator

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

Protein coding sequence | Resistance to antibiotics (Kanamycin)

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

Promoter

BCH-GENE-SCBD-14986-6 CRY1AC | BACILLUS THURINGIENSIS - BT, BACILLUS, BACTU |

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

BCH-GENE-SCBD-101416-6 TI PLASMID RIGHT BORDER REPEAT |

Plasmid vector

Notes regarding the genetic elements present in this LMO

The event CTC93209 was obtained using Agrobacterium-mediated transformation to insert T-DNA from the vector pCTC523. The inserted fragment contains two expression cassettes: *Bacillus thuringiensis cry1Ac* and *Escherichia coli* neomycin phosphotransferase II (*nptII*).

The *cry1Ac* coding sequence is under control of the *Zea mays* ubiquitin promoter and *Agrobacterium tumefaciens* nopaline synthase terminator.

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The *nptII* coding sequence is under control of the *Zea mays* ubiquitin promoter and *Agrobacterium tumefaciens* nopaline synthase terminator.

Note:

- Restriction digest analysis indicated that the sugarcane genome contains two T-DNA inserts.

LMO characteristics

Modified traits

Resistance to diseases and pests

Insects

Lepidoptera (butterflies and moths)

Resistance to antibiotics

Kanamycin

Common use(s) of the LMO

Feed

Food

Detection method(s)

External link(s)

? [EUginius: GMO event CTC93209-4 \(English \)](#)

Additional Information

Other relevant website addresses and/or attached documents

? [EUginius: GMO event CTC93209-4 \(English \)](#)

? [ISAAA: CTC93209-4 \(English \)](#)

? [BR102020005666A2.pdf](#) ()

[BCH-LMO-SCBD-115563-3](#)

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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on Biological Diversity**

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