





Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)

BCH-LMO-SCBD-101018-13

? Decisions on the LMO ? Risk Assessments

LAST UPDATED: 12 FEB 2014

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.



https://bch.cbd.int/database/record?documentID=101018

BCS-GHØØ4-7 Herbicide-tolerant, insect-resistant cotton

CBD

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

Name

Herbicide-tolerant, insect-resistant cotton

Transformation event

T304-40

Unique identifier

BCS-GHØØ4-7

Developer(s)

- ORGANIZATION: BAYER CROP SCIENCE K.K | BCH-CON-JP-11695-3

ORGANIZATION

Bayer Crop Science K.K Marunouchi Kitaguchi Building, 1-6-5, Marunouchi Chiyoda-ku, Tokyo Japan Website:

Description

LM cotton line, T304-40, is protected against feeding damage by Lepidopteran insect larvae, and is also tolerant to herbicides containing glufosinate ammonium. Insect protection is conferred by expression of a modified Cry1Ab protein from Bacillus thuringiensis and herbicide tolerance is conferred by expression of phosphinothricin acetyltransferase (PAT) from Streptomyces hygroscopicus.

ΕN

Recipient Organism or Parental Organisms



ΕN

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-12080-6 ORGANISM GOSSYPIUM HIRSUTUM (COTTON)

Crops

Characteristics of the modification process

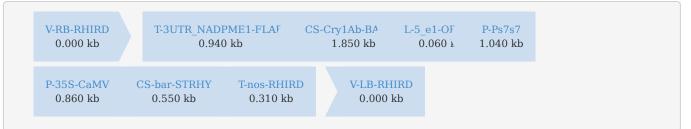
Vector

pTDL008 derived from pGSV20

Techniques used for the modification

Agrobacterium-mediated DNA transfer





EN

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-14972-12 PHOSPHINOTHRICIN N-ACETYLTRANSFERASE GENE

Protein coding sequence | Resistance to herbicides (Glufosinate)

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

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

BCH-GENE-SCBD-101021-3 PS7S7

Promoter

BCH-GENE-SCBD-101025-5 NADP-MALIC ENZYME 1 GENE 3'UTR AND TERMINATOR | (COASTALPLAIN

YELLOWTOPS)

Terminator

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

Promoter

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

Terminator

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

Plasmid vector

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

Plasmid vector

BCH-GENE-SCBD-104947-3 5'E1 LEADER | (RICE)

Leader

Notes regarding the genetic elements present in this LMO

The modified cry1Ab gene1 has been derived from a gene (Genbank accession No. X04698 first cloned and characterised by Höfte et al (1986)) which, under the latest nomenclature system, is now known as cry1Ab5 (Bacillus thuringiensis toxin nomenclature,database available online at http://www.lifesci.sussex.ac.uk/home/Neil Crickmore/Bt/toxins2.html). Sequencing of the 9056 bp inserted transgenic construct and Southern blot analysis revealed an almost full copy of the T-DNA construct (with an incomplete 3`me1 terminator) was inserted into the T304-40 LM cotton line in addition to: • a partial 3'me1 terminator; • a partial copy of the cry1Ab gene cassette, with a trunckated Ps7s7 promoter, in a tail-to-EN tail orientation, and • a partial copy of the bar gene cassette in which the nos terminator is truncated. As a result of the transformation event, four new junctions have been created (see Figure 4 in the attached file below), two being located at the 5' and 3' ends of the insert and two being located within the insert as a result of the rearrangement. Southern blot analysis revealed no vector backbone sequences in cotton line T304-40. For further description of the T304-40 LM cotton, see the safety assessment document

LMO characteristics

attached below.

Modified traits	
Resistance to diseases and	l pests
Insects	
Le	pidoptera (butterflies and moths)
	European corn borer (Ostrinia nubilalis)
Resistance to herbicides	
Glufosinate	
Common use(s) of the LMO	
Food	
Feed	
Fiber/textile	
Other (Industrial)	

Detection method(s)

External link(s)

? BCS-GHØØ4-7 - EU Reference Laboratory for GM Food and Feed (*English*)

Additional Information

Other relevant website addresses and/or attached documents

? T304-40 Safety Assessment - Food Standards Australia and New Zealand (<code>English</code>)

? 120105-01 Import and processing of cotton T304-40.pdf (<code>English</code>)

BCH-LMO-SCBD-101018-13

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