

## Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-14781-6

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

LAST UPDATED: 17 JAN 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.



CGN-89322-3  
Delayed-ripening tomato

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=14781>


Name

Delayed-ripening tomato

EN

Transformation event

8338

Unique identifier

CGN-89322-3

Developer(s)

- [ORGANIZATION: MONSANTO \(CALGENE\)](#) | [BCH-CON-SCBD-14932-1](#)

#### ORGANIZATION

Monsanto (Calgene)

Website: <http://www.monsato.com>

Description

Tomato line 8338 was developed by introducing into the genome of a processing tomato cultivar UC82B a gene for 1-amino-cyclopropane-1-carboxylic acid deaminase (ACCD) derived from a nonpathogenic soil bacterium (*Pseudomonas chlororaphis*). In the plant, this enzyme catalyzes metabolism of 1-amino-cyclopropane-1-carboxylic acid (ACC), an essential precursor for the biosynthesis of the plant ripening hormone ethylene.

The initiation and progression of tomato fruit ripening depends on increased levels of ethylene. In line 8338, ACC is sufficiently reduced in detached fruit so that ethylene becomes limiting and the ripening process is delayed. Line 8338 has also been transformed with the

EN

nptII gene derived from Escherichia coli that encodes the enzyme NPTII. NPTII confers resistance to certain antibiotics, such as kanamycin, that are used to select transformed cells.

#### 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-12079-5](#) ORGANISM | SOLANUM LYCOPERSICUM (TOMATO, SOLLC) |  
Crops

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

Cultivar: UC82B

EN

### Characteristics of the modification process

#### Vector

PV-LERP07

EN

#### Techniques used for the modification

Agrobacterium-mediated DNA transfer

#### Genetic elements construct

<a href="#">P-34S-FMV</a> 0.574 kb	<a href="#">L-HSP70</a> 0.107 kb	<a href="#">CS-accD-PSECL</a> 1.076 kb	<a href="#">T-rbcS_E9-PEA</a> 0.659 kb
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<a href="#">P-35S-CaMV</a> 0.370 kb	<a href="#">CS-nptII-ECOLX</a> 0.845 kb	<a href="#">T-ocs-RHIRD</a> 0.267 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-15013-4](#) 1-AMINO-CYCLOPROPANE-1-CARBOXYLIC ACID DEAMINASE | (BACTERIA) |

Protein coding sequence | Changes in physiology and/or production (Ripening)

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

Protein coding sequence | Resistance to antibiotics (Kanamycin)

[BCH-GENE-SCBD-101507-5](#) FMV 34S PROMOTER |

Promoter

[BCH-GENE-SCBD-103901-2](#) HSP 70 5' UNTRANSLATED LEADER SEQUENCE | (PETUNIA) |

Leader

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

Terminator

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

Promoter

## BCH-GENE-SCBD-100271-5 OCTOPINE SYNTHASE GENE TERMINATOR

Terminator

Notes regarding the genetic elements present in this LMO

1-amino-cyclopropane-1-carboxylic acid deaminase - Pseudomonas chlororaphis strain 6G5

EN

### LMO characteristics

Modified traits

Resistance to antibiotics

Kanamycin

Changes in physiology and/or production

Ripening

Common use(s) of the LMO

Food

### Additional Information

Other relevant website addresses and/or attached documents

? [Tomato 8338 - OECD](#) ( *English* )

? [Tomato 8338 - CERA](#) ( *English* )

? [Tomato 8338 - APHIS](#) ( *English* )

BCH-LMO-SCBD-14781-6

## 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**

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

Fax: +1 514 288-6588

Email: [secretariat@cbd.int](mailto:secretariat@cbd.int)