

## Biosafety Clearing-House (BCH)

LIVING MODIFIED ORGANISM (LMO)


BCH-LMO-SCBD-110268-2

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

LAST UPDATED: 06 FEB 2020

### 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.



Herbicide tolerant SU canola

CBD

<https://bch.cbd.int/database/record?documentID=110268>



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

Name

Herbicide tolerant SU canola

EN

Transformation event

5715

Developer(s)

- [ORGANIZATION: CIBUS CANADA](#) | [BCH-CON-SCBD-110267-1](#)

#### ORGANIZATION

Cibus Canada  
Private sector (business and industry)  
Canada  
Email: [info@cibus.com](mailto:info@cibus.com)  
Website: <http://www.cibus.com/index.php>

Description

A canola event that is tolerant to the sulfonylurea herbicides tribenuron-methyl and thifensulfuron-methyl.

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-12083-7](#) ORGANISM | BRASSICA NAPUS (TURNIP, RAPESEED, CANOLA PLANT, OILSEED RAPE, RAPE, BRANA) |

## Characteristics of the modification process

Techniques used for the modification

Other (Oligonucleotide-directed mutagenesis)

Genetic elements construct

P-AHAS3-BRANA 0.000 kb	CS-AHAS3-BRANA 0.000 kb	T-AHAS3-BRANA 0.000 kb
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P-AHAS1-BRANA 0.000 kb	CS-AHAS1-BRANA 0.000 kb	T-AHAS1-BRANA 0.000 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-110261-1** ACETOHYDROXY ACID SYNTHASE 3 GENE PROMOTER | (RAPESEED, CANOLA PLANT, CANOLA) |

Promoter

**BCH-GENE-SCBD-110260-1** ACETOHYDROXY ACID SYNTHASE 3 GENE | (RAPESEED, CANOLA PLANT, CANOLA) |

Protein coding sequence | Resistance to herbicides (Imidazolinone, Sulfonylurea)

**BCH-GENE-SCBD-110262-1** ACETOHYDROXY ACID SYNTHASE 3 GENE TERMINATOR | (RAPESEED, CANOLA PLANT, CANOLA) |

Terminator

**BCH-GENE-SCBD-110264-1** ACETOHYDROXY ACID SYNTHASE 1 GENE PROMOTER | (RAPESEED, CANOLA PLANT, CANOLA) |

Promoter

**BCH-GENE-SCBD-110265-1** ACETOHYDROXY ACID SYNTHASE 1 GENE | (RAPESEED, CANOLA PLANT, CANOLA) |

Protein coding sequence | Resistance to herbicides (Imidazolinone, Sulfonylurea)

**BCH-GENE-SCBD-110266-2** ACETOHYDROXY ACID SYNTHASE 1 GENE TERMINATOR | (RAPESEED, CANOLA PLANT, CANOLA) |

Terminator

Notes regarding the genetic elements present in this LMO

Cibus Canada Inc. has developed a canola event that is tolerant to the sulfonylurea herbicides tribenuron-methyl and thifensulfuron-methyl. The development of canola event 5715 was accomplished by conventional breeding of two herbicide tolerant mutants, one newly produced and one commercially available. Cibus Canada Inc. utilized an oligonucleotide-directed mutagenesis approach known as the Rapid Trait Development System™ (RTDS™), which included the application of tissue culture techniques that generated plant cells more receptive to mutagenesis.

*Brassica napus* carries two complete genomes designated "A" and "C". Each genome has an acetohydroxyacid synthase (AHAS) gene (BnAHAS1 gene in the C genome and BnAHAS3 in the A genome) coding for an AHAS enzyme.

Tolerance to the sulfonylurea herbicides is achieved in canola event 5715 through the presence of the same single point mutation, known as the PM2 mutation, in both the BnAHAS1 and BnAHAS3 genes. This mutation results in modified AHAS enzymes carrying a single amino acid substitution which renders them insensitive to tribenuron-methyl and thifensulfuron-methyl.

It should be noted that the PM2 mutation confers tolerance to a range of AHAS-inhibiting herbicides commonly referred to as the "group 2" herbicides (i.e. the imidazolinones, pyrimidinylthiobenzoates, sulfonylamino-carbonyltriazolinones, sulfonylureas and triazolopyrimidines).

## LMO characteristics

### Modified traits

Resistance to herbicides  
Imidazolinone  
Sulfonylurea

### Common use(s) of the LMO

Food  
Feed

## Additional Information

### Other relevant website addresses and/or attached documents

? [Regulatory hurdles for genome editing: process- vs. product-based approaches in different regulatory contexts.pdf](#) ( *English* )

? [Non-Transgenic Trait Development in Crop Plants Using Oligo-Directed Mutagenesis: Cibus' Rapid Trait Development System.pdf](#) ( *English* )

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## 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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