

Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-14994-9

LAST UPDATED: 06 AUG 2021

General information

Name of genetic element

Cry34Ab1

EN

Abbreviation

CS-cry34Ab1-BACTU

EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-45614-11](#) ORGANISM | BACILLUS THURINGIENSIS (BT, BACILLUS, BACTU) |

Bacteria

Point of collection or acquisition of the donor organism(s)

Bacillus thuringiensis strain PS149B1

EN

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

Cry34Ab1 delta-endotoxin

EN

Biological function of the protein

The cry34Ab1 gene codes for a 14kDa Bt-toxin Cry34Ab1. When expressed with Cry35Ab1 it results in the mortality of Coleopteran insects, such as western corn rootworm (*Diabrotica virgifera*), northern corn rootworm (*D. barberi*), and mexican corn rootworm (*D. virgifera zeae*) upon oral ingestion.

EN

Related trait(s) or use(s) in biotechnology

Resistance to diseases and pests

Insects

Additional Information

Cry proteins, of which Cry34Ab1 is one among many, 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. Cry34Ab1 is lethal when eaten by the larvae of certain coleopteran insects (i.e., corn rootworms), and its specificity of action is directly attributable to the presence of specific binding sites in the target insects.

EN

Other relevant website addresses and/or attached documents

- ? [Characterization of Cry34Ab1 and Cry35Ab1 Insecticidal Crystal Proteins Expressed in Transgenic Corn Plants and Pseudomonas fluorescens \(English \)](#)
- ? [Cry35Ab1 - BCH \(English \)](#)

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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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