

Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-106246-1

EN

RU

LAST UPDATED: 20 DEC 2014

General information

Name of genetic element

5-enolpyruvylshikimate-3-phosphate synthase gene

EN

Abbreviation

CS-aroA-DICDA

EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-106245-3](#) ORGANISM | DICKEYA DADANTII (DICDA)

Bacteria

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

5-enolpyruvylshikimate-3-phosphate synthase (EPSPS)

EN

Biological function of the protein

Involved in EPSP biosynthesis. The *aroA* gene, which encodes 5-enolpyruvylshikimate-3-phosphate synthase, an enzyme of the common aromatic biosynthetic pathway, the enzyme participates in biosynthesis of the aromatic amino acids phenylalanine, tyrosine and tryptophan.

The enzyme is a target for herbicides as these amino acids are only synthesized in plants and microorganisms. Glyphosate acts as a competitive inhibitor for phosphoenolpyruvate, as substrate of EPSPS, and is used as a broad-spectrum systemic herbicide.

EN

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

Resistance to herbicides

Glyphosate

Additional Information

Other relevant website addresses and/or attached documents

? [aroA, Dickeya dadantii - UniProt](#) (*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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