

Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-100728-3

LAST UPDATED: 13 JAN 2022

General information

Name of genetic element

Dicamba monooxygenase gene

EN

Abbreviation

CS-dmo-STEMA

EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-103677-3](#) ORGANISM | STENOTROPHOMONAS MALTOPHILIA (S. MALTOPHILIA, STENOTROPHOMONAS) |
Bacteria

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

Dicamba monooxygenase

EN

Biological function of the protein

DMO (dicamba monooxygenase) catalyzes the O-demethylation of 2-methoxy-3,6-dichlorobenzoic acid (dicamba) to yield 3,6-dichlorosalicylic acid (DCSA) and formaldehyde via an exocyclic monooxygenation. Thus, the enzyme confers tolerance to dicamba herbicides in planta.

EN

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

Resistance to herbicides
Dicamba (2-methoxy-3,6-dichlorobenzoic acid)

Additional Information

Other relevant website addresses and/or attached documents

- ? [Dicamba resistance enlarging and preserving biotechnology-based weed management strategies.pdf](#) (*English*)
- ? [DMO Patent EP1972686A1.pdf](#) (*English*)
- ? [Safety assessment of dicamba mono-oxygenases that confer dicamba tolerance to various crops.pdf](#) (*English*)
- ? [GenBank - DdmC \[Stenotrophomonas maltophilia\]](#) (*English*)
- ? [UniProtKB - Dicamba O-demethylase, oxygenase component](#) (*English*)
- ? [A Three-component Dicamba O-Demethylase from Pseudomonas maltophilia strain DI-6.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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