

Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-106424-3

LAST UPDATED: 09 JAN 2018

General information

Name of genetic element

Polyphenol oxidase 5 gene

EN

Abbreviation

CS-Ppo5-SOLVR

EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-106423-4](#) ORGANISM | SOLANUM VERRUCOSUM (SOLVR) |

Crops

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

Polyphenol oxidase 5

EN

Biological function of the protein

The PPO enzyme family catalyses the o-hydroxylation of monophenol molecules in which the benzene ring contains a single hydroxyl substituent) to o-diphenols (phenol molecules containing two hydroxyl substituents). It can also further catalyse the oxidation of o-diphenols to produce o-quinones.

EN

PPO causes the rapid polymerization of o-quinones to produce black, brown or red pigments (polyphenols) that cause fruit browning

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

Changes in quality and/or metabolite content
Pigmentation / Coloration

Additional Information

Downregulation of the Ppo5 gene results in reduced susceptibility to black spot bruise development.

EN

Other relevant website addresses and/or attached documents

? [GeneBank: HM363754.1](#) (*English*)

? [Antisense expression of polyphenol oxidase genes inhibits enzymatic browning in potato tubers](#) (*English*)

[BCH-GENE-SCBD-106424-3](#)

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