GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-100268-6

LAST UPDATED: 12 FEB 2021

General information

Name of genetic element

Acetohydroxy acid synthase gene EN

Alternate genetic element name(s) (synonym(s))

Acetolactate synthase gene EN

gm-hra EN

Abbreviation

CS-ahas-SOYBN EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

BCH-ORGA-SCBD-10453-6 ORGANISM | GLYCINE MAX (SOYBEAN, SOYA BEAN, SOYA, SOYBN) | Crops

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

Acetohydroxy acid Synthase EN

Biological function of the protein

Acetohydroxy acid synthase (also known as acetolactate synthase) is a key enzyme that catalyzes the first common step in the biosynthesis of the essential branched-chain amino acids isoleucine, leucine, and valine

The *gm-hra* gene has been modified by site directed mutagenesis (P183A and W560L) from the native soybean *als* gene and encodes a version of the enzyme that is tolerant to *als* EN

inhibitors such as sulfonylurea herbicide.

It also contains 15 additional nucleotides from the native *als* gene 5'UTR.

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

Resistance to herbicides
Sulfonylurea

Additional Information

Other relevant website addresses and/or attached documents

? Imidazolinone-tolerant crops - history, current.pdf *(English)*

? Molecular characterization of Als1, an acetohydroxyacid synthase mutation conferring resistance to sulfonylurea herbicides in soybean.pdf *(English)*

? US5084082A - Soybean plants with dominant selectable trait for herbicide resistance.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.

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