LIVING MODIFIED ORGANISM (LMO)

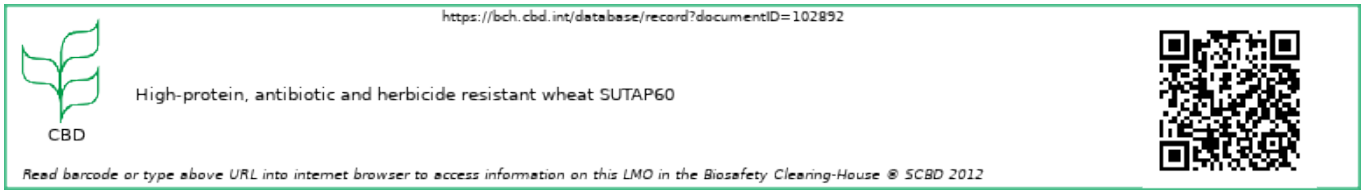
BCH-LMO-SCBD-102892-6 EN DE

? Decisions on the LMO ? Risk Assessments

LAST UPDATED: 27 AUG 2012

Living Modified Organism identity

The image below identifies the LMO through its unique identifier, trade name and a link to this page of the BCH. Click on it to download a larger image on your computer. For help on how to use it go to the LMO quick-links page.



Name

High-protein, antibiotic and herbicide resistant wheat SUTAP60	EN

Transformation event

SUTAP60

Developer(s)

- ORGANIZATION: INSTITUT FÜR PFLANZENGENETIK UND KULTURPFLANZENFORSCHUNG | BCH-CON-DE-49376-1

ORGANIZATION

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Description

The endosperm-specific expression of the amino acid permease VfAAp1 in SUTAP60 wheat leads to increased amino acid uptake into the endosperm that might be used in the amino acid biosynthesis process. Therefore, an increase in the protein content in the wheat grains is expected. Additionally, wheat transformed with VfAAp1 is likely to exhibit early flowering.	EN

Recipient Organism or Parental Organisms

The term “Recipient organism” refers to an organism (either already modified or non-modified) that was subjected to genetic modification, whereas “Parental organisms” refers to those that were involved in cross breeding or cell fusion.

BCH-ORGA-SCBD-45396-4 ORGANISM | TRITICUM AESTIVUM (WHEAT) |
Crops

Point of collection or acquisition of the recipient organism or parental organisms

Cultivar/ Breeding line: Certo EN

Related LMO(s)

BCH-LMO-SCBD-102895-3 | High-protein, antibiotic and herbicide resistant wheat SUTAP69 | Institut für Pflanzengenetik und Kulturpflanzenforschung | Changes in quality and/or metabolite content (Carbohydrates, Protein and amino acids), Resistance to antibiotics (Ampicillin), Resistance to herbicides (Glufosinate)
BCH-LMO-SCBD-102893-6 | High-protein, antibiotic and herbicide resistant wheat SUTAP78 | Institut für Pflanzengenetik und Kulturpflanzenforschung | Changes in quality and/or metabolite content (Carbohydrates, Protein and amino acids), Resistance to antibiotics (Ampicillin), Resistance to herbicides (Glufosinate)

Characteristics of the modification process

Vector

pUC18/SUTAP and pJFBar EN

Techniques used for the modification

Biolistic / Particle gun

Genetic elements construct

P-SUT1-HORVU	CS-Vfaap1	T-Vfaap1
0.000 kb	0.000 kb	0.000 kb

P-ubi1-MAIZE	CS-bar-STRHY	T-35S-CaMV
0.000 kb	0.000 kb	0.000 kb

Introduced or modified genetic element(s)
Some of these genetic elements may be present as fragments or truncated forms. Please see notes below, where applicable.

BCH-GENE-SCBD-100362-7 UBIQUITIN GENE PROMOTER | (MAIZE, CORN) |
Promoter

BCH-GENE-SCBD-14972-12 PHOSPHINOTHRICIN N-ACETYLTRANSFERASE GENE |
Protein coding sequence | Resistance to herbicides (Glufosinate)

BCH-GENE-SCBD-100290-6 CAMV 35S TERMINATOR |
Terminator

BCH-GENE-SCBD-14975-5 BETA-LACTAMASE GENE | (BACTERIA) |
Protein coding sequence | Resistance to antibiotics (Ampicillin)

BCH-GENE-SCBD-102882-3 SUCROSE TRANSPORTER PROMOTER | (BARLEY)

Promoter

BCH-GENE-SCBD-48368-4 AMINO ACID PERMEASE 1 GENE | (BROAD BEAN, FIELD BEAN, PIGEON BEAN, HORSE BEAN, WINDSOR BEAN, TICK BEAN)

Protein coding sequence | Changes in quality and/or metabolite content (Protein and amino acids)

BCH-GENE-SCBD-103860-1 AMINO ACID PERMEASE 1 TERMINATOR | (BROAD BEAN, FIELD BEAN, PIGEON BEAN, HORSE BEAN, WINDSOR BEAN, TICK BEAN)

Terminator

Notes regarding the genetic elements present in this LMO

By transformation of wheat with the vector pUC18/SUTAP the amino acid permease VfAAP1 was introduced into the wheat genome. Since VfAAP1 is put under the control of the HvSUT1 promoter it is specifically expressed within the transfer cells of the endosperm. As a modification to the listed genetic element 'VfAAP1', here, the endogeneous terminator of VfAAP1 is joined to the coding sequence. VfAAP1 is exclusively expressed within the endosperm during the phase of increased protein biosynthesis in wheat grains. This is meant to optimize the amino acid supply for increased levels of protein biosynthesis. Aditionally the integration of the beta lactamase gene from pUC19 was observed. This gene mediates resistance to bacteria towards ampicillin and was used as a selection marker prior to transformation of wheat plants. Simultaneously, the vector pJFBar was co-transformed to mediate resistance towards phospinotricine (PPT, Glufosinate) to be used as a selective marker system.	EN

LMO characteristics

Modified traits

Resistance to herbicides
- Glufosinate

Resistance to antibiotics
- Ampicillin

Changes in quality and/or metabolite content
- Carbohydrates
- Protein and amino acids

Common use(s) of the LMO

Food
Research

BCH-LMO-SCBD-102892-6

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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