

Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-111873-2 EN DE

LAST UPDATED: 16 MAY 2017

General information

Name of genetic element

Tyrosine suppressor tRNA gene

EN

Abbreviation

CS-supF-ECOLX

EN

Category

Protein coding sequence

Is this genetic element a synthetic molecule?

No

Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-14930-5](#) ORGANISM | *ESCHERICHIA COLI* (ECOLX) |
Bacteria

Characteristics of the protein coding sequence

Name of the protein expressed by the coding sequence

SupF tyrosine suppressor tRNA gene

EN

Biological function of the protein

A suppressor tRNA contains a mutation in the anticodon region that leads to its recognition and binding to a stop codon. This leads to the suppression of protein truncation resulting from a nonsense mutation. Therefore the suppressor tRNA will bind and incorporate its amino acid, instead of the regular release factor binding and causing termination, allowing translation to continue.

EN

The *Escherichia coli* tyrosine suppressor tRNA incorporates tyrosine at the chain termination codon UAG, thereby suppressing this stop-codon. It has been utilized in several shuttle-vector plasmids.

Additional Information

Other relevant website addresses and/or attached documents

- ? [Use of supF, an Escherichia coli tyrosine suppressor tRNA gene, as a mutagenic target in shuttle-vector plasmids](#) (*English*)
- ? [Misreading of termination codons in eukaryotes by natural nonsense suppressor tRNAs](#) (*English*)
- ? [Nonsense suppressor - Wikipedia](#) (*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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