

## Biosafety Clearing-House (BCH)

GENETIC ELEMENT (GENE)

BCH-GENE-SCBD-104795-4

LAST UPDATED: 17 MAY 2021

### General information

Name of genetic element

RB7 matrix attachment region

EN

Abbreviation

E-rb7\_mar-TOBAC

EN

Category

Other (Enhancer)

Is this genetic element a synthetic molecule?

No

### Donor organism

Donor organism(s)

[BCH-ORGA-SCBD-12120-4](#) ORGANISM | NICOTIANA TABACUM (TOBACCO, TOBAC ) |  
Crops

### Characteristics of the protein coding sequence

### Additional Information

The RB7 gene matrix attachments region (MAR) is a 1.2 kb fragment isolated from the 3' flanking region of the RB7 root-specific gene of tobacco.

When positioned on the flanking ends of gene cassettes, some the RB7 MAR has been shown to increase expression of transgenes and to reduce the incidence of gene silencing. It is hypothesized that MARs may act to buffer effects from neighbouring chromosomal sequences that could destabilize the expression of genes.

EN

Other relevant website addresses and/or attached documents

? [Use of matrix attachment regions \(MARs\) to minimize transgene silencing.pdf](#) ( English )

? [Elevation of Transgene Expression Level by Flanking Matrix Attachment Regions \(MAR\) is Promoter Dependent A Study of the Interactions of Six Promoters with the RB7 3' MAR.pdf](#) ( English )

? [Nuclear scaffolds and scaffold-attachment regions in higher plants \( English \)](#)

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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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