Title (en)

CHEMICALLY-INDUCIBLE ARABIDOPSIS PR-1 PROMOTER

Title (de)

CHEMISCH INDUZIERBARER ARABIDOPSIS-PR-1-PROMOTER

Title (fr)

PROMOTEUR DU PR-1 ARABIDOPSIS CHIMIQUEMENT INDUCTIBLE

Publication

EP 0868426 A4 20020417 (EN)

Application

EP 97935012 A 19970718

Priority

- US 9712626 W 19970718
- US 2722896 P 19960723

Abstract (en)

[origin: WO9803536A1] The nucleic acid sequence of the full-length, chemically inducible Arabidopsis PR-1 promoter has been discovered and is disclosed herein. Furthermore, cis-acting regulatory elements in the Arabidopsis PR-1 promoter involved in chemical induction have been characterized using deletion and linker-scanning mutagenesis and in vivo footprinting. It has been discovered that at least a portion of the region of promoter between positions -698 and -621 (relative to the transcription start site of the PR-1 gene) is required for induction of gene expression by chemicals. Two 10-bp linker-scanning mutations centered at 640-bp and 610-bp upstream from the transcription start site abolish the inducibility of the promoter while another 10-bp mutation centered at -670 bp results in average induced expression levels 4-fold higher than the unmutated promoter. Additionally, inducible in vivo footprints are located at positions -629 and -628 and at position -604 on the coding strand and at position -641 on the non-coding strand. The use of chemically inducible Arabidopsis PR-1 promoter fragments to regulate gene expression in plants in the presence of inducing chemicals such as SA, INA, and BTH is disclosed, as well as the use of these elements for the isolation of transcriptional regulatory proteins involved in the promoter regulation and for the construction of inducible hybrid promoters.

IPC 1-7

C07H 21/04; C12N 5/14; C12N 15/82; C12Q 1/68

IPC 8 full level

C12N 15/09 (2006.01); **C07K 14/415** (2006.01); **C12N 1/19** (2006.01); **C12N 5/10** (2006.01); **C12N 15/82** (2006.01); **C12Q 1/68** (2006.01)

CPC (source: EP)

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Citation (search report)

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- See references of WO 9803536A1

Designated contracting state (EPC)

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DOCDB simple family (publication)

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