Name: *DR5::GUS*

Accessions: H3

Map position:

Gene function: synthetic auxin-responsive promoter (containing response elements such as TGTCTC) fused to the reporter gene *gus* (beta-glucuronidase).

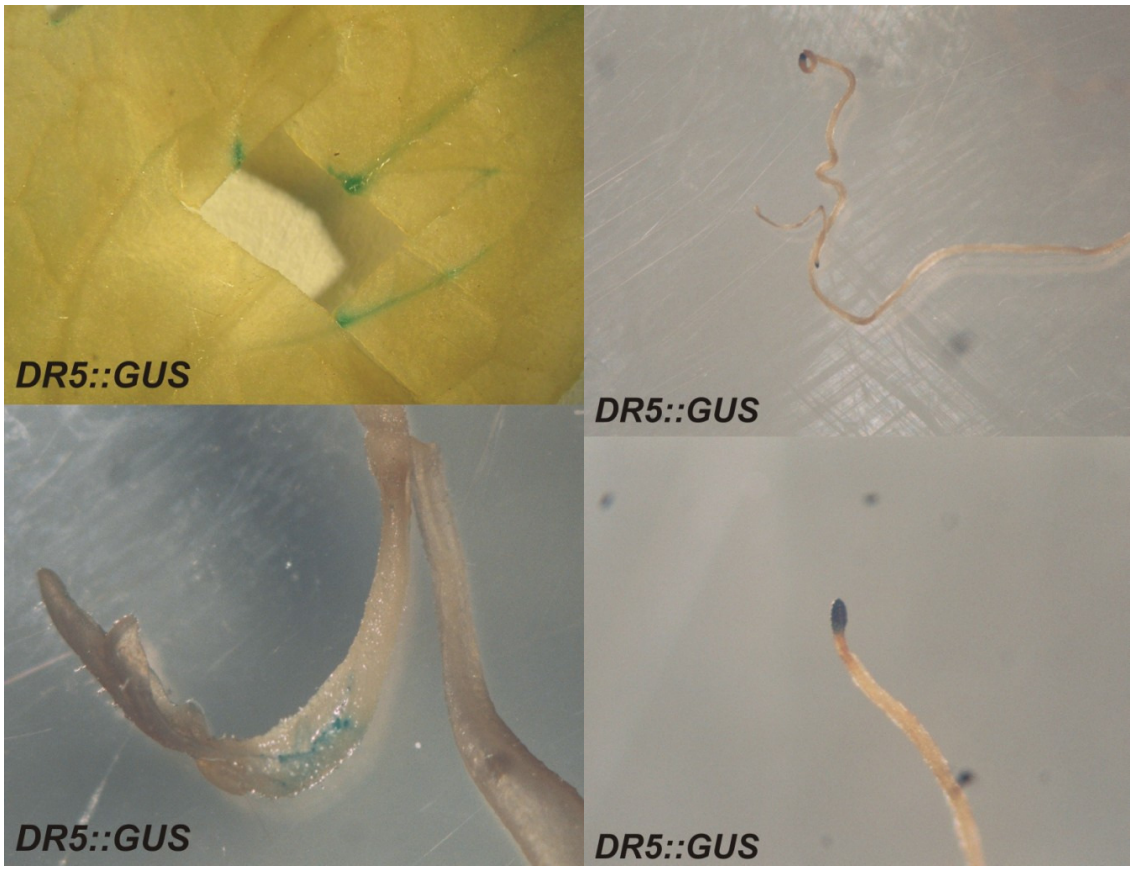
Gene effect: MT- *DR5::GUS* plants present GUS activity in sites where auxin accumulates (root tips, vascular terminations, shoot and leaf primordium).

Phenotypes: only visible upon histochemical gus assay, which consists in the treatment of transgenic plants with the substrate 5-bromo-4-chloro-3-indolyl glucuronide (X-Gluc): the product of the reaction is insoluble and has a clear blue color. Other common substrates are p-nitrophenyl β-D-glucuronide for the spectrophotometrical assay and 4-methylumbelliferyl-beta-D-glucuronide (MUG) for the fluorimetrical assay. The plants are resistant to kanamycin, which is the selectable maker in the vector used.

Comments: The auxin-response promoter *DR5* consists of 9 inverted repeats of the 11-bp sequence 5'-*CCTTTTGTCTC*-3', a 46-bp *CaMV35S* minimal promoter element, and a *TMV* leader sequence.

Description of accessions available: MT-*DR5::GUS* is a transgenic plant produced by Dr. Jose Luis Garcia-Martinez (Universidad Politécnica de Valencia, Spain).

Figures:



MT- *DR5::GUS* showing GUS activity in different tissues. Clockwise from top left: 1) gus staining in vascular termination on a leaf cut, 2) gus staining in root tips, 3) magnification of root tip, and 4) gus staining in shoot tip with leaf primordia. After gus assay, leaf tissues were treated with ethanol 70% to remove chlorophyll and improve visualization.

Bibliography

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