



## TECHNOLOGY

# Isolation of a Plant Promoter that Directs Gene Expression to the Root Cap and Can be Used to Target, to the Environment, Genes Beneficial for Plant Growth

## OVERVIEW

This invention provides an AtCel5 gene promoter that is expressed exclusively in root cap cells of both primary and secondary roots of plants. AtCel5 is a soluble and secreted protein that plays a role in sloughing of root cap cells from the root tip. Sloughing is critical because it assists the growing root in penetrating the soil.

In addition the discovery provides a root cap specific promoter for targeting and expressing genes with beneficial properties of plant growth. Protein expression can include, but is not limited, to antifungals, antibacterials, and anti-nematode compounds as well as growth factors.

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Issued

### LICENSE STATUS

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### CATEGORIES

- Agricultural

### EXTERNAL RESOURCES

- [US Patent 7,888,556](#)

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