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What's new in Plant-Soil-Microbe Interactions

GRR VASI Végétal - Agronomie - Sols - Innovation

Do you know ...

...that cell wall pectic polysaccharides play a key role in controlling growth and development of roots and pollen tubes!

Pectins are major components of primary cell wall that play a crucial role in plant development. After biosynthesis, pectins are secreted in the cell wall by Golgiderived vesicles under a highly methylesterified form and are de-methylesterified by pectin methylesterases (PME).

It is hypothesized that PME might be regulated by pectin methylesterase inhibitor (PMEI). In this paper, we show by isoelectric focalisation and subsequent zymogram that kiwi PMEI was able to inhibit Arabidopsis PME activity by forming a complex. The complexes were stable under a wide range of ionic strength and pH.

Moreover, PMEI might be able to form a complex with basic PMEs including three PMEs strongly expressed in root and four PMEs expressed in pollen grains.

Finally, exogenous treatment with kiwi PMEI was able to reduce the activity of cell wall resident PMEs with persistent effects such as an increase of the root growth and a dramatic effect on pollen tube stability.

