

MBG FOCUS TALK

hosted by Section for Plant Molecular Biology



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Science Park, Conference room, 3130-303

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MtLAX2, an Orthologue of the Arabidopsis Auxin Influx Transporter AUX1, is Required for Nodule Organogenesis

The plant hormone auxin is a critical signal during root growth and development. A role for auxin in the formation of nodules, specialized lateral organs that form on roots and house nitrogen-fixing rhizobia, has been suggested by numerous studies. Gene expression studies identified *MtLAX2*, a *Medicago truncatula* ortholog of Arabidopsis *AUX1*, as being induced at early stages of nodule development. *MtLAX2* is expressed in nodule primordia, the vasculature of developing nodules and at the apex of mature nodules. The *MtLAX2* promoter contains several auxin response elements and q-RT-PCR experiments confirmed that indole-acetic acid (IAA) strongly induces *MtLAX2* in roots. *mtlax2* mutants had reduced nodulation and decreased expression of the auxin reporter *DR5-GUS* associated with infection sites. Our data provide evidence that localized auxin influx mediated by *MtLAX2*, is required for the accumulation of auxin for nodule formation in tissues underlying sites of rhizobial infection.