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Title: RNA sequencing and analysis of three *Lupinus* nodulomes provide new insights into specific host-symbiont relationships with compatible and incompatible *Bradyrhizobium* strains



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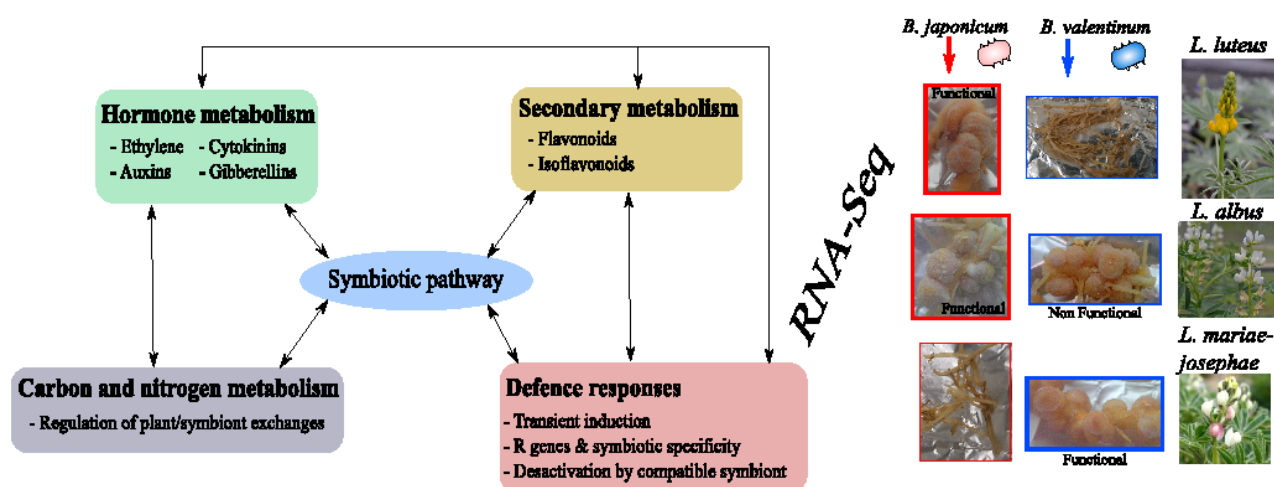
Title: RNA sequencing and analysis of three *Lupinus* nodulomes provide new insights into specific host-symbiont relationships with compatible and incompatible *Bradyrhizobium* strains

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Graphical abstract



Abstract

Nitrogen fixation in the legume root-nodule symbiosis has a critical importance in natural and agricultural ecosystems and depends on the proper choice of the symbiotic partners. However, the genetic determinism of symbiotic specificity remains unclear. To study this process, we inoculated three *Lupinus* species (*L. albus*, *L. luteus*, *L. mariae-josephae*), belonging to the under-investigated tribe of Genistoids, with two *Bradyrhizobium* strains (*B. japonicum*, *B. valentinum*) presenting contrasted degrees of symbiotic specificity depending on the host. We produced the first transcriptomes (RNA-Seq) from lupine nodules in a context of symbiotic specificity. For each lupine species, we compared gene expression between functional and non-functional interactions and determined differentially expressed (DE) genes. This

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