

## **Characterization of genes induced by drought stress in nodules of *Lotus tenuis***

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Water status of plants is the most important factor determining their productivity. One of the most affected processes by drought stress is nitrogen fixation, which involve nodule function and develop. This is accompanied by changes in expression of genes related principally with cellular homeostasis regulation, reactive oxygen species (ROS) detoxification and signal transduction.

In this work we present evidences of genes induced during drastic change of water content in the plant, which constitute emergency first response. Mediating use of GeneFishing DEG-Kit were isolated twelve fragments, which were cloned and sequenced. Results obtained mediating DEG Kit were validated using northern reverse and northern blot analysis. Genes identified have not previously reported in nodules, however, have been described in other organs for several species and related with mechanisms of drought tolerance. DEG Lt7 coding for class III endochitinase was studied in more detail. This show a high homology with gene *Srchi13* from *Sesbania rostrata*, which is described by modulate signal generated by Nod factors during nodule formation. Endochitinase gene is induced in nodules and roots of *L. tenuis* during drought stress. Detailed studies will allow elucidate role of endochitinases in mechanisms of nodule tolerance to drought stress in legumes.

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