



# Overexpression of a *Medicago truncatula* stress-associated protein gene (MtSAP1) leads to nitric oxide accumulation and confers osmotic and salt stress tolerance in transgenic tobacco

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Auteur	Charrier, Aurélie [1], Planchet, Elisabeth [2], Cerveau, Delphine [3], Gimeno-Gilles, Christine [4], Verdu, Isabelle [5], Limami, Anis M. [6], Lelièvre, Eric [7]
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Résumé en anglais	<p>The impact of <i>Medicago truncatula</i> stress-associated protein gene (MtSAP1) overexpression has been investigated in <i>Nicotiana tabacum</i> transgenic seedlings. Under optimal conditions, transgenic lines overexpressing MtSAP1 revealed better plant development and higher chlorophyll content as compared to wild type seedlings. Interestingly, transgenic lines showed a stronger accumulation of nitric oxide (NO), a signaling molecule involved in growth and development processes. This NO production seemed to be partially nitrate reductase dependent. Due to the fact that NO has been also reported to play a role in tolerance acquisition of plants to abiotic stresses, the responses of MtSAP1 overexpressors to osmotic and salt stress have been studied. Compared to the wild type, transgenic lines were less affected in their growth and development. Moreover, NO content in MtSAP1 overexpressors was always higher than that detected in wild seedlings under stress conditions. It seems that this better tolerance induced by MtSAP1 overexpression could be associated with this higher NO production that would enable seedlings to reach a high protection level to prepare them to cope with abiotic stresses.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua7796">http://okina.univ-angers.fr/publications/ua7796</a> [17]
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## Liens

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