



A stress-associated protein containing A20/AN1 zing-finger domains expressed in *Medicago truncatula* seeds

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Auteur	Gimeno-Gilles, Christine [1], Gervais, Marie-Laure [2], Planchet, Elisabeth [3], Sator, Pascale [4], Limami, Anis M. [5], Lelièvre, Eric [6]
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Résumé en anglais	<p>MtSAP1 (<i>Medicago truncatula</i> stress-associated protein 1) was revealed as a down-regulated gene by suppressive subtractive hybridization between two mRNA populations of embryo axes harvested before and after radicle emergence. MtSAP1 is the first gene encoding a SAP with A20 and AN1 zinc-finger domains characterized in <i>M. truncatula</i>. MtSAP1 protein shares 54% and 62% homology with AtSAP7 (<i>Arabidopsis thaliana</i>) and OsSAP8 (<i>Oryza sativa</i>) respectively, with in particular a strong homology in the A20 and AN1 conserved domains. MtSAP1 gene expression increased in the embryos during the acquisition of tolerance to desiccation, reached its maximum in dry seed and decreased dramatically during the first hours of imbibition. Abiotic stresses (cold and hypoxia), abscisic acid and desiccation treatments induced MtSAP1 gene expression and protein accumulation in embryo axis, while mild drought stress did not affect significantly its expression. This profile of expression along with the presence of anaerobic response elements and ABRE sequences in the upstream region of the gene is consistent with a role of MtSAP1 in the tolerance of low oxygen availability and desiccation during late stages of seed maturation. Silencing of MtSAP1 by RNA interference (RNAi) showed that the function of the encoded protein is required for adequate accumulation of storage globulin proteins, vicilin and legumin, and for the development of embryos able to achieve successful germination.</p>
URL de la notice	http://okina.univ-angers.fr/publications/ua7748 [13]
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