



## A role for an endosperm-localized subtilase in the control of seed size in legumes

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Auteur	D'Erfurth, Isabelle [1], Le Signor, Christine [2], Aubert, Grégoire [3], Sanchez, M. [4], Vernoud, V. [5], Darchy, B. [6], Lherminier, J. [7], Bourion, V. [8], Bouteiller, N. [9], Bendahmane, A. [10], Buitink, Julia [11], Prosperi, Jean-Marie [12], Thompson, Richard [13], Burstin, Judith [14], Gallardo, Karine [15]
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Résumé en anglais	<p>-Here, we report a subtilase gene (SBT1.1) specifically expressed in the endosperm of <i>Medicago truncatula</i> and <i>Pisum sativum</i> seeds during development, which is located at a chromosomal position coinciding with a seed weight quantitative trait locus (QTL).-Association studies between SBT1.1 polymorphisms and seed weights in ecotype collections provided further evidence for linkage disequilibrium between the SBT1.1 locus and a seed weight locus. To investigate the possible contribution of SBT1.1 to the control of seed weight, a search for TILLING (Targeting Induced Local Lesions in Genomes) mutants was performed. -An inspection of seed phenotype revealed a decreased weight and area of the <i>sbt1.1</i> mutant seeds, thus inferring a role of SBT1.1 in the control of seed size in the forage and grain legume species. Microscopic analyses of the embryo, representing the major part of the seed, revealed a reduced number of cells in the MtP330S mutant, but no significant variation in cell size. -SBT1.1 is therefore most likely to be involved in the control of cotyledon cell number, rather than cell expansion, during seed development. This raises the hypothesis of a role of SBT1.1 in the regulation of seed size by providing molecules that can act as signals to control cell division within the embryo.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua7805">http://okina.univ-angers.fr/publications/ua7805</a> [22]
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