The continuous flowering gene in rose is a floral inhibitor

Submitted by Laurence Hibran... on Tue, 06/02/2015 - 13:12

Titre	The continuous flowering gene in rose is a floral inhibitor
Type de publication	Communication
Type	Communication avec actes dans un congrès
Année	2015
Langue	Anglais
Date du colloque	25-30/08/2013
Titre du colloque	VI International Symposium on Rose Research and Cultivation
Titre des actes ou de la revue	Acta Horticulturae
Volume	1064
Pagination	107-113
Auteur	Hibrand-Saint Oyant, Laurence [1], Randoux, M. [2], Jeauffre, Julien [3], Thouroude, Tatiana [4], Pierre, S. [5], Jammes, M.J. [6], Reynoird, Jean-Paul [7], Foucher, Fabrice [8]
Pays	Allemagne
Editeur	International Society for Horticultural Science
Ville	Hanovre
Mots-clés	floral repressor [9], recurrent blooming [10], RoKSN [11], TFL1 [12], transgenic [13]
Résumé en anglais	In rose, RoKSN, a TFL1 homologue, is a key regulator of continuous flowering. To study the function of this gene in planta, protocols of plant transformation are needed. We complemented tfl1 Arabidopsis mutants and ectopically expressed RoKSN in a continuous-flowering rose. In Arabidopsis, RoKSN complemented the tfl1 mutant by rescuing late flowering and indeterminate growth. In continuous-flowering rose, the ectopic expression of RoKSN led to the absence of flowering. In these transgenic roses, a study of genes implied in the floral regulation was carried out. The floral activator transcripts decreased whereas the FD transcription factor is up-regulated. We conclude that RoKSN is a floral repressor and could regulate the expression of transcripts as RoFT and RoFD. These results could strengthen a mechanism of competitive interactions of RoFT and RoKSN with a common partner, FD to move towards flowering or vegetative developments.
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