Dissection of the transcriptional regulation of grape ASR and response to glucose and abscisic acid

Titre	Dissection of the transcriptional regulation of grape ASR and response to glucose and abscisic acid
Type de publication	Article de revue
Auteur	Saumonneau, Amélie [1], Laloi, Maryse [2], Lallemand, Magali [3], Rabot, Amelie [4], Atanassova, Rossitza [5]
Editeur	Oxford University Press (OUP)
Type	Article scientifique dans une revue à comité de lecture
Année	2012
Langue	Anglais
Date	2012/01/02
Numéro	3
Pagination	1495 - 1510
Volume	63
Titre de la revue	Journal of Experimental Botany
ISSN	0022-0957
Mots-clés	Allelic polymorphism [6], ASR transcriptional regulation [7], dual luciferase reporter system [8], glucose and ABA signalling [9], grapevine [10], IRHSLABO [11], phloem conducting complex [12], promoter functional analysis [13]
Résumé en anglais	Despite the fact that the precise physiological function of ASRs [abscisic acid (ABA), stress, ripening] remains unknown, they have been suggested to play a dual role in the plant response to environmental cues, as highly hydrophilic proteins for direct protection, as well as transcription factors involved in the regulation of gene expression. To investigate further the biological positioning of grape ASR in the hormonal and metabolic signal network, three promoters corresponding to its cDNA were isolated and submited to a detailed in silico and functional analysis. The results obtained provided evidence for the allelic polymorphism of the grape ASR gene, the organ-preferential expression conferred on the GUS reporter gene, and the specific phloem tissue localization revealed by in situ hybridization. The study of glucose and ABA signalling in its transcriptional control, by transfection of grape protoplasts using the dual luciferase system, revealed the complexity of ASR gene expression regulation. A model was proposed allowing a discussion of the place of ASR in the fine tuning of hormonal and metabolic signalling involved in the integration of environmental cues by the plant organism.
URL de la notice	http://okina.univ-angers.fr/publications/ua7847 [14]
DOI	10.1093/jxb/err391 [15]
Lien vers le document	http://dx.doi.org/10.1093/jxb/err391 [15]

Liens
[1] http://okina.univ-angers.fr/publications?f[author]=12561
[2] http://okina.univ-angers.fr/publications?f[author]=11987
[3] http://okina.univ-angers.fr/publications?f[author]=12562
[4] http://okina.univ-angers.fr/publications?f[author]=11986
[5] http://okina.univ-angers.fr/publications?f[author]=12289
[6] http://okina.univ-angers.fr/publications?f[keyword]=12182
[7] http://okina.univ-angers.fr/publications?f[keyword]=12183
[8] http://okina.univ-angers.fr/publications?f[keyword]=12184
[9] http://okina.univ-angers.fr/publications?f[keyword]=12185
[10] http://okina.univ-angers.fr/publications?f[keyword]=12186
[11] http://okina.univ-angers.fr/publications?f[keyword]=12546
[12] http://okina.univ-angers.fr/publications?f[keyword]=12187
[13] http://okina.univ-angers.fr/publications?f[keyword]=12188
[14] http://okina.univ-angers.fr/publications/ua7847
[15] http://dx.doi.org/10.1093/jxb/err391