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Ramón Serrano
Instituto de Biología Molecular y Celular de Plantas. (Valencia)

ASSISTANT

Carmen Arroyo Martín
Centro de Biología Molecular “Severo Ochoa”, Madrid, (Spain)
Genetic, physiological and environmental factors influence seed germination potential by triggering a complex interplay of hormones, being GA/ABA balance the most important. The function of cereal aleurone layers in germinated cereal grains is to synthesize and secrete hydrolytic enzymes to degrade endosperm reserves. Among hydrolases, the response of α-amylase and protease genes to GA is by far the best-characterized GA response in aleurone cells (Sun and Gubler, 2004). A tripartite GA Response Complex (GARC) has been identified in the promoters of hydrolase genes. Several TFs proteins of different families bind to specific cis-elements in the GARC complex (Gubler et al., 1995; Mena et al., 2002; Isabel-Lamoneda et al., 2003; Rubio-Somoza et al., 2006a, 2006b; Moreno-Risueño et al., 2007). However, GARC is not a major cis-element for GA-induced expression in Arabidopsis seeds (Ogawa et al., 2003). Moreover, the action of GA in the endosperm of Arabidopsis cannot be blocked by ABA (Penfield et al., 2006). These data suggest that it may not exist a high degree of conservation in cis-elements and TFs in GA-regulated responses during seed germination between monocot (cereals) and dicot (Arabidopsis) plants, as exists in the regulation of Seed Storage Protein (SSP) gene expression during seed maturation (Vicente-Carbajosa and Carbonero, 2005). Using phylogenetic shadowing approaches we have identified conserved cis-elements involved in gene expression control during Arabidopsis seed germination. In vivo analysis of promoter:luciferase constructs in transgenic plants and approaches to identify the TFs responsible for the activity will be presented.