

THE EMBRYO MADS-DOMAIN PROTEIN AGL15 DIRECTLY
REGULATES EXPRESSION OF A GENE ENCODING A GIBBERELLIN 2-
OXIDASE

H. Wang¹, L.V. Caruso¹, A.B. Downie², and S.E. Perry^{1*}

¹Departments of Agronomy and ²Horticulture, University of Kentucky, Plant
Science Building, 1405 Veterans Drive, Lexington, KY 40546-0312 USA

To better understand how the MADS domain transcriptional regulator AGAMOUS-Like 15 (AGL15) functions during and after seed development, a chromatin immunoprecipitation (ChIP) approach was used to identify directly regulated genes. *AtGA2ox6*, which encodes an enzyme involved in GA metabolism, was identified and confirmed as a direct downstream target of AGL15. Constitutive expression of *AGL15* and of *AtGA2ox6* altered endogenous GA amounts and caused GA-deficient phenotypes in Arabidopsis that could be at least partially rescued by application of biologically active GA. The phenotype of plants with decreased expression of *AtGA2ox6* was the converse of plants overexpressing *AtGA2ox6* in terms of seed germination attributes and effects on somatic embryo production.