P012 A Myb transcription factor regulates salt tolerance mechanisms in *Arabidopsis*

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A screen of an activation tagged population of *Arabidopsis* for improved salinity tolerance identified several mutants. Segregation analysis showed the salt tolerance phenotype of one of these mutants (JP-5) to be closely linked with the inserted tag, and to be dominant. TAIL-PCR identified the site of insertion to be in the promoter region of a gene coding for a Myb transcription factor. Quantitative PCR confirmed that the expression levels of the Myb was increased, but those of neighbouring genes were not affected. Transgenic lines were generated using *Agrobacterium tumefaciens* carrying a construct containing four sequential 35S-enhancer elements (activator) fused 5′ of a genomic fragment containing the Myb gene (promoter and 3′ sequence). Several of these transgenic lines demonstrated a similar phenotype to the JP-5 mutant including improved salt tolerance. Quantitative PCR studies show that the expression of this Myb is increased in shoots within 90 minutes when Col-0 plants are exposed to NaCl. We conclude the expression of this transcription factor is increased in response to salinity stress and invokes down stream salt tolerance mechanisms.

We will present a more detailed description of the isolation of the JP-5 mutant, and of the genetic, molecular and physiological characterization of Myb over-expressing lines. We will also report on our current experiments to identify the sequences and mechanisms regulated by this Myb.