

**P009** The tomato ethylene receptors and CTR1-like MAPKKKs  
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Ethylene is one of five classic plant hormones that regulate plant growth and development and is critically involved in fruit ripening as well as seed germination, flower formation, senescence, abscission, and pathogen responses. Genetic studies in the model plant *Arabidopsis* have defined the pathway of ethylene signal transduction, in which ethylene is believed to be perceived by a family of five membrane-bounded receptors and the association of a Raf-like MAPKKK (AtCTR1) with the receptors is the crucial step for passing down the signal. In the climacteric fruit tomato, which is an important model species for the study of fruit ripening, six ethylene receptors and four CTR1-like MAPKKKs have been isolated so far. In this research, we first examine the interactions between these tomato ethylene receptors and the downstream CTR1-like MAPKKKs by using yeast two-hybrid assay and then validate the yeast *in vitro* interaction results through comparing the cellular localizations of these proteins (fused with GFP) by transient expression in onion epidermal cells.