

## **Phylogenetic analysis of GRAS gene family members across species.**

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Members of the GRAS gene family [Gibberellin-Acid Insensitive (GAI), Repressor of GAI (RGA), and Scarecrow (SCR)] have diverse functions in many plant species. In *Arabidopsis thaliana*, members of the family have been shown to play roles in Gibberellin acid signal transduction, meristem development, and radial patterning in roots. In *Medicago truncatula*, two members of the GRAS family, NSP1 and NSP2, are necessary for the symbiotic relationship between the plant's roots and nitrogen fixing rhizobia bacteria. Two members have been identified in *Oryza sativa* that are upregulated after treatment with an oligosaccharide defense response elicitor. There is the possibility that some members may play both a role in defense responses as well as symbiosis with mycorrhizal fungi and/or rhizobia bacteria. The research outlined in this poster will address the phylogenetic relationship among members of the GRAS family across various species.