

REGULATION OF GIBBERELLINS METABOLISM IN PLANTS

Summary

Bioactive gibberellins (GA) are diterpene phytohormones that are biosynthesized through complex pathways and control different aspect of plants growth and development, such as seeds germination, stems elongation and floral induction. Among more than one hundred thirty GA identified from plants, fungi and bacteria, only small number of them – GA₁, GA₃, GA₄, GA₅, GA₆, GA₇ – are biologically active. Many non-bioactive GA exist in plants as precursor or deactivated metabolites. The GA metabolism pathway in plants has been studied for a long time, and large number of genes encoding the metabolism enzymes

has been identified. Many of these enzymes are multifunctional and therefore fewer enzymes than might be expected are required to synthesize the various gibberellins structures. Increasing lines of evidence indicate that GA metabolism pathway is strictly regulated during plant development and in response to hormonal and environmental signals. In this review, we summarize our current understanding of the GA metabolism pathways, genes and enzymes in plant, and first of all we discuss how GA concentration is regulated during plant development under varying condition.