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ABSCISIC ACID ANALOGS – TOWARD DEVELOPMENT OF ABA-BASED PLANT GROWTH REGULATORS

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We are developing chiral ABA analogs to probe the structural requirements of binding pockets of proteins that recognize ABA and ABA catabolites. Our overall objectives are to establish the biological activity of each compound in the pathway and to design analogs to target specific proteins, in a rational design of ABA-based plant growth regulators. These analogs are being used in physiological and biochemical studies on enzymes that metabolize ABA such as glucosyl transferases and P450 monooxygenases that hydroxylate ABA. Affinity probes with the essential structural features of ABA preserved, have been developed to identify novel ABA-binding proteins. Recent progress in these studies will be reported.