

Plant Sciences 407b Plant Secondary Metabolism

Assignment No. 3 Alkaloid Biosynthesis

Due Friday Feb. 20, 2004

Relatively few enzymes of alkaloid biosynthesis have been described in any great detail. However, more are being described each year, both at the molecular and mechanistic levels.

Find a primary research article describing the characterization of an enzyme involved in alkaloid biosynthesis. Using a maximum of 2 pages single-spaced, typewritten (or equivalent hand written) describe the reaction catalyzed by the enzyme (both the “on paper” reaction and what is known or supposed about the mechanism) and summarize the major findings of the paper. Finally, include a description of the major type(s) of alkaloid(s) found in the plant from which the enzyme was characterized, as well as a description of their biological/ecological significance.

Hand in a copy of the article with your assignment.

[As a background, refer to the review article “Alkaloid Biosynthesis in Plants: Biochemistry, Cell Biology, Molecular Regulation and Metabolic Engineering Applications” by Peter Facchini (*Ann. Rev. Plant Physiol. Plant Mol. Biol.*, 52:29-66, 2001), available from the course website in pdf format.]