

April 19, 2007

BOT 6516 PLANT METABOLISM

Phytohormones and Elicitors

How long has it been known that L-tryptophan was a precursor of IAA?

Where in the cell are the enzymes of IAA synthesis localized?

What is missing in Fig. 17.42?

What enzyme converts Indole-3-acetonitrile to IAA?

What phenotype does an IAA minus plant have?

What does it mean tryptophan auxotroph? What is the IAA content of such plants?

What do mutant studies indicate about IAA synthesis?

What is considered to be a main degradation pathway for IAA?

Contrast reversible versus the irreversible degradation pathway.

What is special about the *trp5* mutant of Arabidopsis?

What organisms have *iaaM*, *iaaH* and *iaaL*?

If *iaaH/iaaM* are co-expressed at high level in planta, what are some resulting phenotypes?

What happens when IAA overproduction is coupled with overexpression of ACC deaminase?

What did a 17-year-old Russian student show about pea seedling growth?

What is the Yang Cycle?

What is ACC?

Why is ACC synthase sensitive to AVG (aminoethoxyvinyl glycine) and aminoxyacetic acid?

What is a "suicide inactivation?"

ACC oxidase produces hydrogen cyanide. How is it detoxified?

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How was the identity of ACC oxidase cDNA sequence confirmed?

Why is ACC oxidase enzymatic activity unstable in tissue extracts and during purification?

Why does polyamine synthesis compete with ethylene synthesis?

How do plant tissues get rid of ethylene?

What effect on tomato fruit does effective antisensing ACC oxidase?

What is brassinolide?

What are some biological activities of brassinosteroids?

What is considered to be a precursor of brassinolide?

Lanosterol or cycloartenol, which is the plant intermediate?

What is the most abundant sterol in plants?

What inhibitors have been useful in elucidating the BR biosynthetic pathway?

What are the major precursors of polyamines?

Jasmonic acid is structurally similar to what signaling molecules in animal systems?

What are some physiological processes influenced by JA?

What is the starting precursor for JA synthesis?

What is unusual about AOS?

Do you know the structure of salicylic acid?

What is calorigen?

Is the pathway leading to SA well understood?

What does the likely pathway (Fig. 17.82) remind you of?