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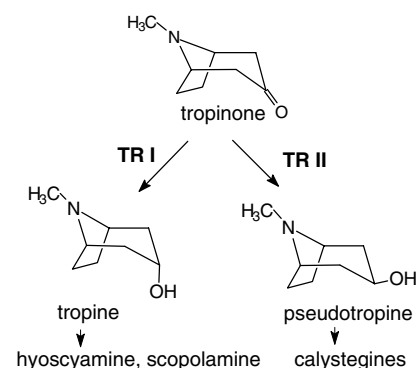
REVIEW

Tropinone reductases, enzymes at the branch point of tropane alkaloid metabolism

pp 327–337

Birgit Dräger *

Two specific tropinone reductases produce tropine or pseudotropine. Enzymes were isolated, characterised, cloned, and expressed from Solanaceae. Stereospecificity of reduction is achieved by binding tropinone in the enzymes' active centres in opposite orientation.



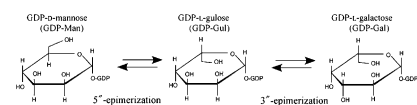
PROTEIN BIOCHEMISTRY

Characterization of a GDP-D-mannose 3'',5''-epimerase from rice

pp 338–346

Kentaroh Watanabe, Kiyoshi Suzuki, Shinichi Kitamura *

GDP-D-mannose 3'',5''-epimerase (GME), a key enzyme in vitamin C biosynthesis, catalyzes the synthesis of GDP-L-galactose and GDP-L-gulose from GDP-D-mannose.

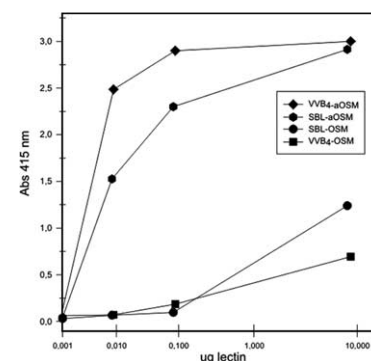


Isolation and characterisation of a *Salvia bogotensis* seed lectin specific for the Tn antigen

pp 347–355

Nohora Vega, Gerardo Pérez *

A lectin was isolated from *Salvia bogotensis* seeds and characterised. An essential step in its purification was the removal of the abundant pigments and polysaccharides which are present in seeds. The lectin showed strong specific binding to Tn antigen-bearing glycoproteins such as asialo ovine and bovine submaxillary mucins.

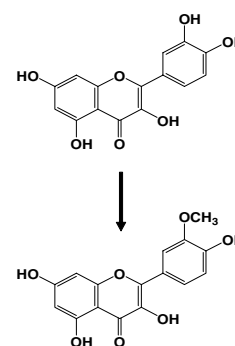


Flavonoid 3'-*O*-methyltransferase from rice: cDNA cloning, characterization and functional expression

pp 387–394

Bong-Gyu Kim, Youngshim Lee, Hor-Gil Hur, Yoongho Lim,
Joong-Hoon Ahn *

An *O*-methyltransferase from rice that transfers a methyl group to the 3'-hydroxy group of flavonoids was characterized.



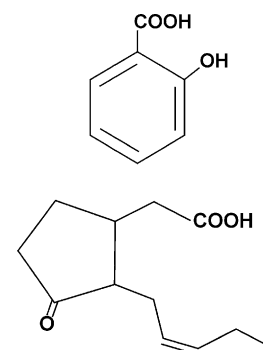
ECOLOGICAL BIOCHEMISTRY

Simultaneous quantitative LC–ESI-MS/MS analyses of salicylic acid and jasmonic acid in crude extracts of *Cucumis sativus* under biotic stress

pp 395–401

Guillem Segarra *, Olga Jáuregui, Eva Casanova, Isabel Trillas

Noticeable improvements to the simultaneous quantitation of salicylic acid and jasmonic acid applied to the better understanding of plant–fungal interactions.



Targeted metabolite profiling provides a functional link among eucalypt taxonomy, physiology and evolution

pp 402–409

Andrew Merchant *, Andreas Richter, Marianne Popp, Mark Adams

Concentrations of a cyclohexanepentol 'D-quercitol' are found to be common among species of *Eucalyptus* naturally distributed below the 500 mm yr⁻¹ rainfall isohyet. The occurrence of D-quercitol represents a quantitative yet discrete phytochemical link with taxonomy and evolution of the genus *Eucalyptus*.

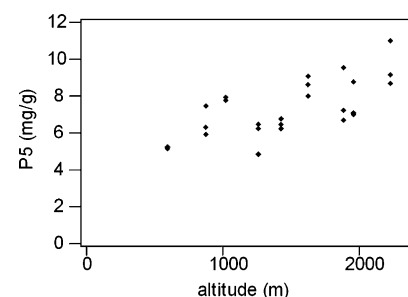


Altitudinal variation of secondary metabolite profiles in flowering heads of *Arnica montana* cv. ARBO

pp 410–418

Renate Spitaler, P. Daniel Schlorhauser, Ernst P. Ellmerer, Irmgard Merfort,
Sigmar Bortenschlager, Hermann Stuppner, Christian Zidorn *

The altitudinal variation on the contents of secondary metabolites in flowering heads of *Arnica montana* was assessed. Plants of *A. montana* cultivar ARBO were grown in nine experimental plots at altitudes between 590 and 2230 m at Mount Patscherkofel near Innsbruck/Austria. The proportion of flavonoids with vicinal free hydroxy groups in ring B to flavonoids lacking this feature significantly increased with elevation. Additionally, the level of phenolic acids, in particular the level of 1-methoxyoxaloyl-3,5-dicaffeoylquinic acid, also positively correlated with the altitude of the growing site.



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