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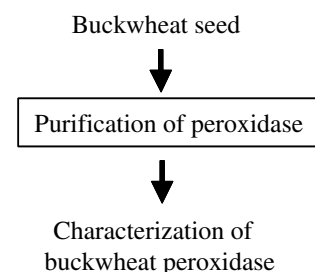
PROTEIN BIOCHEMISTRY

Characterization of peroxidase in buckwheat seed

pp 219–224

Tatsuro Suzuki \*, Yutaka Honda, Yuji Mukasa, Sun-ju Kim

A peroxidase was purified from buckwheat seed, and characteristics (such as isozyme composition, molecular weight, substrate specificity,  $K_m$ , thermal stability and organ distribution) were investigated.

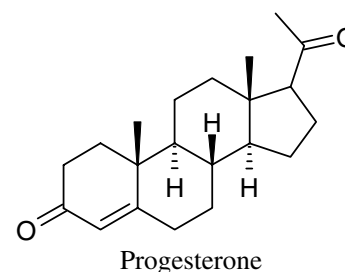


Molecular cloning and heterologous expression of progesterone 5 $\beta$ -reductase from *Digitalis lanata* Ehrh.

pp 225–231

Vanessa Herl \*, Gabriele Fischer, Frieder Müller-Uri, Wolfgang Kreis

Progesterone 5 $\beta$ -reductase from *Digitalis lanata* Ehrh., a key enzyme in cardenolide biosynthesis was cloned from leaves and over-expressed in *Escherichia coli* for functional tests.

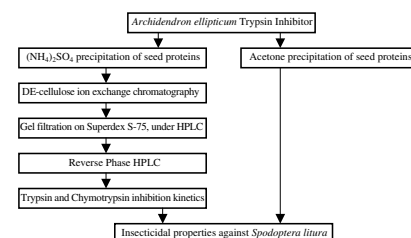


A Kunitz proteinase inhibitor from *Archidendron ellipticum* seeds: Purification, characterization, and kinetic properties

pp 232–241

Arindam Bhattacharyya \*, Suman Mazumdar, Sudeshna Mazumdar Leighton, Cherukuri R. Babu

A Kunitz inhibitor was purified from *Archidendron ellipticum* seeds using both preparatory as well as analytical techniques. Inhibition kinetics and biochemical characterization studies are reported.

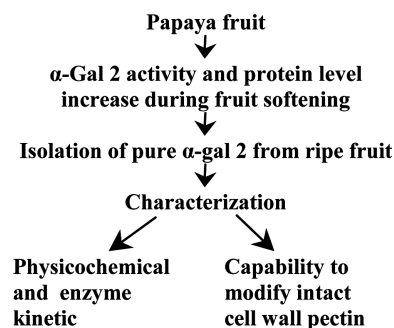


## Characterisation of an $\alpha$ -galactosidase with potential relevance to ripening related texture changes

pp 242–254

Chin-Pin Soh, Zainon Mohd Ali, Hamid Lazan \*

$\alpha$ -Gal 2 is the dominant isoform and its activity and protein level increase during ripening of papaya. Purified  $\alpha$ -gal 2 from ripe fruit was isolated and characterised. This isoform was capable to markedly catalyse increased pectin solubility and depolymerisation.



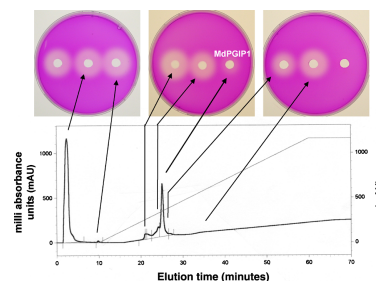
## MOLECULAR GENETICS AND GENOMICS

### Apple polygalacturonase inhibiting protein1 expressed in transgenic tobacco inhibits polygalacturonases from fungal pathogens of apple and the anthracnose pathogen of lupins

pp 255–263

Dean Oelofse \*, Ian A. Dubery, Riaan Meyer, Melanie S. Arendse, Inge Gazendam, Dave K. Berger

Biochemical characterization of the apple polygalacturonase inhibiting protein1 was carried out by expression in a heterologous plant host, thus defining the activity of the product of this specific apple *pgip* gene.



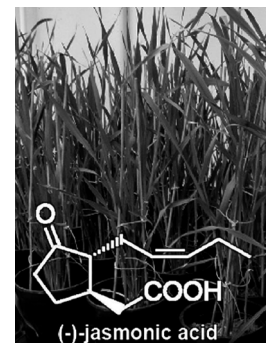
## METABOLISM

### Transgenic barley plants overexpressing a 13-lipoxygenase to modify oxylipin signature

pp 264–276

Vijendra K. Sharma, Tamas Monostori, Cornelia Göbel, Robert Hänsch, Florian Bittner, Claus Wasternack, Ivo Feussner, Ralf R. Mendel, Bettina Hause, Jutta Schulze \*

Chimeric gene constructs comprising the full length cDNA of a lipoxygenase from barley were used to generate transgenic barley plants by biolistics of scutella. Constitutive overexpression of LOX-100 led to a modified oxylipin signature and indicated a link between occurrence of LOX-100 and senescence.



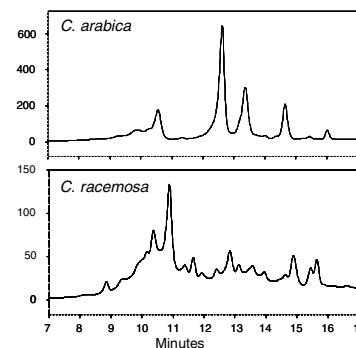
## ECOLOGICAL BIOCHEMISTRY

### Polyphenoloxidase activity in coffee leaves and its role in resistance against the coffee leaf miner and coffee leaf rust

pp 277–285

Geraldo Aclécio Melo, Milton Massao Shimizu, Paulo Mazzafera \*

The role of PPO as a defence mechanism against pathogens and insects was investigated in coffee leaves regarding resistance against the coffee leaf miner and coffee leaf rust. We concluded that coffee resistance may be related to the oxidative potential of the tissue regarding the phenolic composition rather than simply to a higher PPO activity.



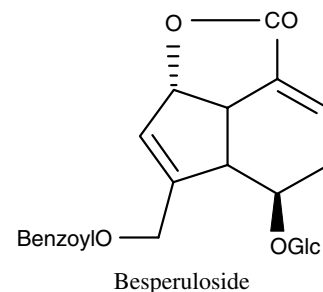
## CHEMOTAXONOMY

## Chemotaxonomy of Veroniceae and its allies in the Plantaginaceae

pp 286–301

Rilka Mladenova Taskova, Charlotte Held Gotfredsen, Søren Rosendal Jensen \*

Members of the genera *Camptoloma*, *Sibthorpia*, *Veronica* subg. *Hebe*, *Veronicastrum*, *Wulfenia*, *Ellisiophyllum* and *Globularia* were examined for non-flavonoid glycosides. Four iridoids and a caffeoyl phenylethanoid glycoside (CPG) were isolated. The taxonomic implications are discussed.



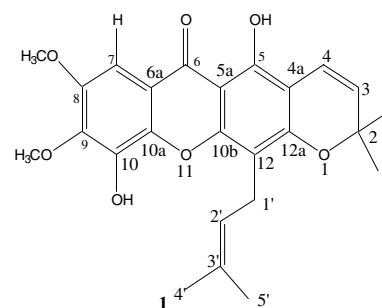
## BIOACTIVE PRODUCTS

Anti-plasmodial and antioxidant activities of constituents of the seed shells of *Symphonia globulifera* Linn f.

pp 302–306

Silvère Ngouela, Bruno Ndjakou Lenta, Diderot Tchamo NOUNGUE, Joseph Ngoupayo, Fabrice Fekam Boyom, Etienne Tsamo \*, Jiri Gut, Philip J. Rosenthal, Joseph D. Connolly

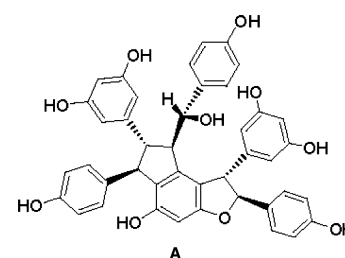
HMBC correlation of compound **1** which demonstrated an interesting anti-plasmodial activity (3.53  $\mu$ M).

Stilbenoids of *Kobresia nepalensis* (Cyperaceae) exhibiting DNA topoisomerase II inhibition

pp 307–313

Masashi Yamada, Ken-ichiro Hayashi, Hiroshi Hayashi, Shogo Ikeda, Takuji Hoshino, Ken Tsutsui, Kimiko Tsutsui, Munekazu Inuma, Hiroshi Nozaki \*

Resveratrol oligomers, nepalensinol A, B and C, were isolated as potent inhibitors of topoisomerase II, and are more potent than the anti-cancer drug, etoposide. Nepalensinol B is the most potent, with an  $IC_{50}$  of 0.02  $\mu$ g/ml.



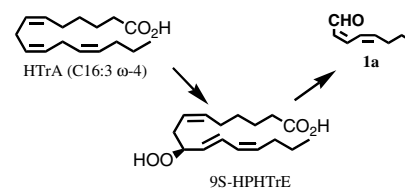
## CHEMISTRY

Biosynthetic intermediates and stereochemical aspects of aldehyde biosynthesis in the marine diatom *Thalassiosira rotula*

pp 314–322

Giuliana d'Ippolito, Adele Cutignano, Sara Tucci, Giovanna Romano, Guido Cimino, Angelo Fontana \*

First direct evidence for lipoxygenase-mediated origin of antiproliferative and apoptotic aldehydes in marine diatoms is given.



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