

Phytochemistry Vol. 92

Contents

OBITUARY

In memoriam, Andrew Marston, November 16, 1953 – March 26, 2013

pp 6–7

K. Hostettmann

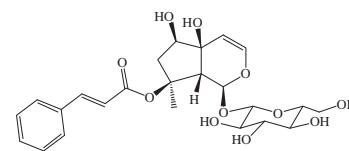
MOLECULES OF INTEREST

Harpagoside: from Kalahari Desert to pharmacy shelf

pp 8–15

Milen I. Georgiev*, Nina Ivanovska, Kalina Alipieva, Petya Dimitrova, Robert Verpoorte

Harpagoside is an iridoid glycoside with highly attractive pharmaceutical properties. It is the major constituent of the iridoid pool in *Harpagophytum procumbens* and is used for standardization of pharmaceutical products and botanical supplements. The compound has also been isolated from several other plant species and *in vitro* plant systems.



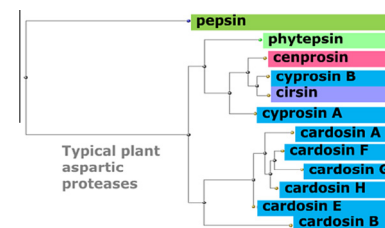
REVIEW

Properties and applications of phytepsins from thistle flowers

pp 16–32

Sandra Vairo Cavalli*, Daniela Lufrano, María Laura Colombo, Nora Priolo

This article updates the state of knowledge regarding the properties and applications of phytepsins, pepsin-like plant aspartic proteases (APs), present in flowers belonging to Cardueae tribe.



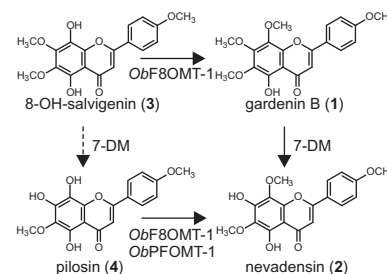
PROTEIN BIOCHEMISTRY AND PROTEOMICS

Characterization of two candidate flavone 8-O-methyltransferases suggests the existence of two potential routes to nevadensin in sweet basil

pp 33–41

Anna Berim, David R. Gang*

Characterization of two candidate flavone 8-O-methyltransferases, analysis of underlying genes' expression and accumulation of relevant flavones in four basil lines suggest two alternative routes to nevadensin in basil trichomes.



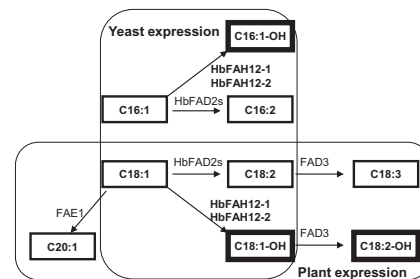
MOLECULAR GENETICS AND GENOMICS

Characterisation of the *FAD2* gene family from *Hiptage benghalensis*: A ricinoleic acid accumulating plant

pp 42–48

Xue-Rong Zhou*, Surinder P. Singh, Allan G. Green

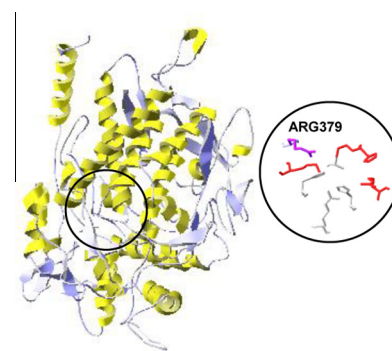
Diagrammatic representation of enzymatic activities involved in hydroxy fatty acids synthesis. Enzymatic steps in yeast cells or in plant cells are grouped in two rectangular boxes. C16:1, C16:2, C18:1, C18:2, C18:3, C20:1, C16:1-OH, 18:1-OH, C18:2-OH are C16:1^{Δ9}, C16:2^{Δ9,12}, C18:1^{Δ9}, C18:2^{Δ9,12}, C18:3^{Δ9,12,15}, C20:1^{Δ11}, 12OH-C16:1^{Δ9}, 12OH-18:1^{Δ9} and 12OH-C18:2^{Δ9,15}. The isolated Δ12-desaturase enzymes (HbFAD2s) can desaturate both C16:1^{Δ9} and C18:1^{Δ9} substrates, and the two isolated *Hiptage benghalensis* hydroxylases HbFAH12-1 and HbFAH12-2 can hydroxylate these substrates. 12OH-18:1^{Δ9} can be desaturated by the same FAD3 enzyme that desaturates C18:2^{Δ9,12} into C18:3^{Δ9,12,15} in plant.

**Molecular cloning, homology modeling and site-directed mutagenesis of vanadium-dependent bromoperoxidase (GcVBPO1) from *Gracilaria changii* (Rhodophyta)**

pp 49–59

H. Baharum, W.-C. Chu, S.-S. Teo, K.-Y. Ng, R. Abdul Rahim, C.-L. Ho*

GcVBPO1 sequence shares high similarities with those from the red algal VBPOs. Mutations (Arg³⁷⁹Phe and Arg³⁷⁹His) of vanadium-dependent bromoperoxidase (GcVBPO1) from *Gracilaria changii* changed its affinity for halides.



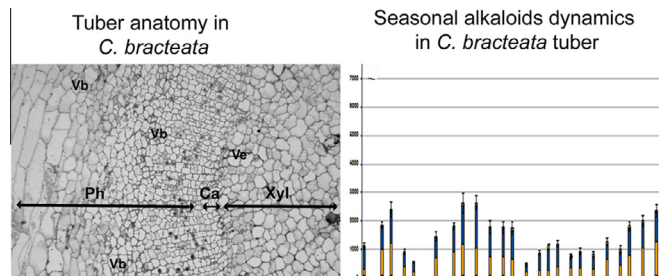
METABOLISM

Biosynthesis of benzylisoquinoline alkaloids in *Corydalis bracteata*: Compartmentation and seasonal dynamics

pp 60–70

Nadezda V. Khodorova*, Alexey L. Shavarda, Michelle Lequart-Pillon, Jean-Claude Laberche, Olga V. Voitsekhovskaja, Michèle Boitel-Conti

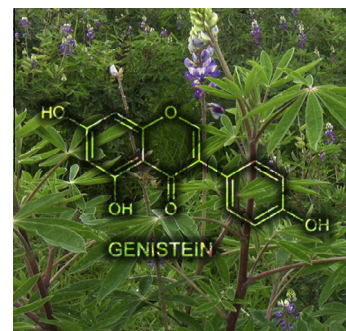
Twelve benzylisoquinoline alkaloids were found in a geophyte *Corydalis bracteata*. All of them are synthesized *de novo* in every plant organ and not translocated *via xylem/phloem*.

**Structural analysis and profiling of phenolic secondary metabolites of Mexican lupine species using LC–MS techniques**

pp 71–86

Anna Wojakowska, Anna Piasecka, Pedro M. García-López, Francisco Zamora-Natera, Paweł Krajewski, Łukasz Marczak, Piotr Kachlicki*, Maciej Stobiecki*

175 Isomeric and isobaric phenolic secondary metabolites of Mexican, North American and Mediterranean lupine species were annotated using CID/MSⁿ experiments. On this basis chemotaxonomic analysis was conducted.



Download English Version:

<https://daneshyari.com/en/article/5164950>

Download Persian Version:

<https://daneshyari.com/article/5164950>

[Daneshyari.com](https://daneshyari.com)