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Graphical abstracts

REVIEW

Medicinal uses, chemistry and pharmacology of Dillenia species (Dilleniaceae)

Carla W. Sabandar, Juriyati Jalil*, Norizan Ahmat and Nor-Ashila Aladdin

pp. 6-25



Species from the genus *Dillenia* have been widely used in medicinal folklore to treat cancers, wounds, jaundice, fever, cough, diabetes mellitus, and diarrhea as well as hair tonics. Flavonoids, triterpenoids, and miscellaneous compounds have been identified in the genus. Extracts and pure compounds from this genus have been reported for their antimicrobial, anti-inflammatory, cytotoxic, antidiabetic, antioxidant, antidiarrheal, and antiprotozoal activities.

MOLECULAR GENETICS AND GENOMICS

Molecular cloning and characterization of a *Perilla frutescens* cytochrome P450 enzyme that catalyzes the later steps of perillaldehyde biosynthesis

pp. 26-37

Yumi Fujiwara and Michiho Ito*

limonene perillyl alcohol perillaldehyde (PA)

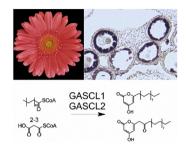
A cytochrome P450 type enzyme with perillyl alcohol and perillaldehyde synthases activities was isolated by analyzing an expressed sequence tag library from several oil types of pure lines of perilla. The recombinant protein catalyzed the hydroxylation and oxidation of limonene to perillyl alcohol and perillaldehyde.

METABOLISM

Functional characterization and expression of GASCL1 and GASCL2, two anther-specific chalcone synthase like enzymes from *Gerbera hybrida*

pp. 38-45

Juha Kontturi, Raisa Osama, Xianbao Deng, Hany Bashandy, Victor A. Albert and Teemu H. Teeri*



Gerbera tapetum localized GASCL1 and GASCL2 are tri-and tetraketide synthases capable of using long chain acyl-CoA starters.

Overexpression of the homologous lanosterol synthase gene in ganoderic acid biosynthesis in *Ganoderma lingzhi* De-Huai Zhang, Na Li, Xuya Yu, Peng Zhao, Tao Li and Jun-Wei Xu*

pp. 46-53

Tsdh B pJW-EXP-LS Sma 1

Psdh B pJW-EXP-LS Sma 1

TsdhB pJW-EXP-LS Sma 1

TsdhB pJW-EXP-LS Sma 1

C. lucidum genome DNA

G. lucidum genome DNA

G. lucidum strain overexpressing lanasterol synthase gene

Overexpression of lanosterol synthase gene increased the ganoderic acid content and the accumulation of lanosterol and ergosterol in a submerged *G. lingzhi* culture.

ECOLOGICAL BIOCHEMISTRY

Inter-population and inter-organ distribution of the main polyphenolic compounds of *Epilobium angustifolium* Nicolas Baert*, Jorma Kim, Maarit Karonen and Juha-Pekka Salminen

pp. 54-63



Nineteen polyphenolic compounds were quantified from different parts of willowherb across 10 populations. Clear differences can be seen in the polyphenol fingerprints of leaves, flowers and stems.

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