1: Arch Pharm Res 2003 Feb;26(2):147-50Links
<javascript:PopUpMenu2_Set(Menu12643592,",",",",",");>

A DNA strand-nicking principle of a higher plant, Caesalpinia sappan.

Mar W, Lee HT, Je KH, Choi HY, Seo EK.

Natural Products Research Institute, College of Pharmacy, Seoul National University, Seoul 110-460, Korea.

To find anticancer agents from higher plants, DNA strand-scission assay method was employed for bioassay-guided fractionation as well as for screening the crude extracts. During the screening, an ethyl acetate extracts of the heartwood of Caesalpinia sappan L. (Leguminosae) exhibited potent DNA strand-scission activity. Therefore, the ethyl acetate extracts of the dried heartwood of C. sappan was subjected to the bioassay-guided fractionation, which led to the isolation of a known compound, brazilin (1) as the active constituent. In addition, caesalpine J (2) was also isolated as an inactive constituent.

PMID: 12643592 [PubMed - in process]

1: Z Naturforsch [C] 2003 Jan-Feb;58(1-2):70-5Links
<javascript:PopUpMenu2_Set(Menu12622230,",",",",",");>

Constituents of antibacterial extract of Caesalpinia paraguariensis Burk.

Woldemichael GM, Singh MP, Maiese WM, Timmermann BN.

Department of Pharmacology and Toxicology, Division of Medicinal and Natural Products Chemistry, College of Pharmacy, University of Arizona, 1703 E. Mabel St., Tucson, AZ 85721-0207, USA.

The Argentinean legume Caesalpinia paraguariensis Burk. (Fabaceae) was selected for further fractionation work based on the strong antimicrobial activity of its CH2Cl2-MeOH (1:1 v/v) extract against a host of clinically significant microorganisms, including antibiotic resistant strains. 1D and 2D NMR enabled the identification of the novel benzoxecin derivative caesalpinol along with the known compounds bilobetin, stigma-5-en-3-O-beta-6'-stearoylglucopyranoside, stigma-5-en-3-beta-6'-palmitoylglucopyranoside, stigma-5-en-3-beta-glucopyranoside, oleanolic acid, 3-O-(E)-hydroxycinnamoyl oleanolic acid, betulinic acid, 3-O-(E)-hydroxycinnamoyl betulinic acid, and lupeol from the active fractions. Oleanolic acid was found active against Bacillus subtilis and both methicillin-sensitive and -resistant Staphylococcus aureus with MICs of 8 (17.5 microM), 8 and 64 (140 microM) microg/ml, respectively. The rest of the compounds, however, did not show activity.

PMID: 12622230 [PubMed - in process]

1: J Asian Nat Prod Res 2003 Mar;5(1):35-41Links <javascript:PopUpMenu2_Set(Menu12608637,",",",",",");>

Irritant potential of some constituents from the seeds of Caesalpinia bonducella (L.) fleming.

Saeed MA, Sabir AW.

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The irritant potential of four triterpenoids, isolated for the first time from the seeds of Caesalpinia bonducella, identified as alpha-amyrin [12-ursen-3beta-ol], beta-amyrin [12-oleanex-3beta-ol], lupeol [lup-20(29)-en-3beta-ol] and lupeol acetate [lup-20(29)-en-3beta-yl acetate] was investigated by open mouse ear assay, evaluating their ID50 (irritant dose in 50% animals) after acute effects and by irritant units (IU) after chronic effects. Alpha-Amyrin, lupeol acetate and beta-amyrin were the most potent and persistent irritant compounds with red weals of 1.5-2.1 cm diameter areas of the animal skin and with lowest ID50 = 0.078, 0.186 and 0.190mg/10 microl after 1.5, 2.10 and 3.5h, respectively. Their reactions lasted for 24 h with IU = 2.5; 0.312 and 1.25 mg/10 microl, respectively. Lupeol was the least irritant and least persistent compound with ID50 = 0.603 mg/10 microl after 4.5 h. Its reaction subsided before 24 h.

PMID: 12608637 [PubMed - indexed for MEDLINE]

: J Ethnopharmacol 2003 Jan;84(1):41-6 </entrez/utils/fref.fcgi?http://linkinghub.elsevier.com/retrieve/pii/S0378874102002623> </entrez/utils/fref.fcgi?http://linkinghub.elsevier.com/retrieve/pii/S0378874102002623>

Advanced studies on the hypoglycemic effect of Caesalpinia bonducella F. in type 1 and 2 diabetes in Long Evans rats.

Chakrabarti S, Biswas TK, Rokeya B, Ali L, Mosihuzzaman M, Nahar N, Khan AK, Mukherjee B.

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Caesalpinia bonducella, widely distributed throughout the coastal region of India and used ethnically by the tribal people of India for controlling blood sugar was earlier reported by us to possess hypoglycemic activity in animal model. This prompted us to undertake a detail study with the aqueous and ethanolic extracts of the seeds of this plant in both type 1 and 2 diabetes mellitus in Long Evans rats. Significant blood sugar lowering effect ($P<0.05$) of C. bonducella was observed in type 2 diabetic model.

Special emphasis was given on the mechanistic study by gut absorption of glucose and liver glycogen.

PMID: 12499075 [PubMed - in process]
: Zhongguo Zhong Yao Za Zhi 1999 Sep;24(9):525-7, 573Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?db=PubMed&cmd=Display&dopt=pubmed_pubmed&from_uid=12205895> Links <javascript:PopUpMenu2_Set(Menu12205895,",",",",");>

[Studies on tannin and hydrolysate in three species of Chinese Caesalpinia plants]

[Article in Chinese]

Ye S, Lu J, He S, Chen L, Hu J.

Guizhou Provincial Institute of Chinese Materia Medica, Guiyang 550002.

OBJECTIVE: To get Chinese Caesalpinia plants that can replace the imported Tara to produce tannin and gallic acid. METHOD: Extract tannin with water, condense and hydrolyze the extracts with alkali, the hydrolysates were identified. Furthermore, an enlarged scale experiment was conducted. RESULT: Tannin contents of the plants were 32.2%, 46.6% and 58.5% respectively, the converted ratios of raw material to hydrolysate were 154:1, 11.8:1, 3.09-2.79:1 respectively. CONCLUSION: We got the Tara-replacing plants in Chinese Caesalpinia plants for the first time.

PMID: 12205895 [PubMed - indexed for MEDLINE]

: J Nat Prod 2002 Aug;65(8):1107-10Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?db=PubMed&cmd=Display&dopt=pubmed_pubmed&from_uid=12193012> Links <javascript:PopUpMenu2_Set(Menu12193012,",",",",");> </entrez/utils/fref.fcgi?http://dx.doi.org/10.1021/np0201523> </entrez/utils/fref.fcgi?http://dx.doi.org/10.1021/np0201523>

New furanoid diterpenes from Caesalpinia pulcherrima.

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Four new cassane-type furanoditerpenoids (1-4) were isolated from the air-dried leaves of Caesalpinia pulcherrima. Their structures were elucidated by spectral data interpretation. The exocyclic methylene compound 1 readily isomerized and oxidized to the benzofuran 4. Benzyl 2,6-dimethoxybenzoate (5) was also identified in this study. Antimicrobial tests on 1-5 indicated that they were active against several bacteria (S.

aureus, E. coli, P. aeruginosa, and B. subtilis) and fungi (C. albicans and T. mentagrophytes).

PMID: 12193012 [PubMed - indexed for MEDLINE]

: Bioorg Med Chem 2002 Jul;10(7):2161-70Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?

Molecular structures and antiviral activities of naturally occurring and modified cassane furanoditerpenoids and friedelane triterpenoids from Caesalpinia minax.

Jiang RW, Ma SC, He ZD, Huang XS, But PP, Wang H, Chan SP, Ooi VE, Xu HX, Mak TC.

Department of Chemistry & Institute of Chinese Medicine, The Chinese University of Hong Kong, Hong Kong SAR, PR, China.

Further investigation of the active components of the chloroform fraction of the seeds of Caesalpinia minax led to the isolation of a new cassane furanoditerpenoid, caesalmin H (1), together with two known furanoditerpenoid lactones, caesalmin B (2) and bonducellpin D (3). Reduction of the naturally abundant caesalmin D (9), E (10) and F (11) resulted in three new furanoditerpenoid derivatives 4-6. Phytochemical study of the stem of the same plant and subsequent reduction afforded two friedelane triterpenoids (7-8), which were identified by spectroscopic methods. Compounds 1-2 and 4-8 were corroborated by single crystal X-ray analysis. The factors governing the reduction of cassane furanoditerpenoids and friedelane triterpenoids were investigated by correlating the crystallographic results with density functional theory. The inhibitory activities of 2-8 on the Para3 virus were evaluated by cytopathogenic effects (CPE) reduction assay.

PMID: 11983512 [PubMed - indexed for MEDLINE]

: Cancer Lett 2002 Mar 28;177(2):119-24Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?db=PubMed&cmd=Display&dopt=pubmed_pubmed&from_uid=11825658> Links <javascript:PopUpMenu2_Set(Menu11825658,",",",",");> </entrez/utils/fref.fcgi?http://linkinghub.elsevier.com/retrieve/pii/S030438350100708X

> </entrez/utils/fref.fcgi?http://linkinghub.elsevier.com/retrieve/pii/S030438350100708X>

Cancer chemopreventive effects of constituents of Caesalpinia ferrea

and related compounds.

Nakamura ES, Kurosaki F, Arisawa M, Mukainaka T, Okuda M, Tokuda H, Nishino H, Pastore F.

Toyama Medical and Pharmaceutical University, Sugitani 2630, Toyama 930-0194, Japan.

The anti-tumor promoting effects of fruits of Caesalpinia ferrea MART. (Leguminosae) were tested by the in vitro Epstein-Barr virus early antigen (EBV-EA) activation assay, and its active constituents were identified as gallic acid (1) and methyl gallate (2). A total of 49 related compounds of 1 and 2 were analysed for the effects by this assay, and the structure activity relationships have been proposed. Three acetophenone derivatives, 2,6-dihydroxyacetophenone (48), 2,3,4-trihydroxyacetophenone (50) and 2,4,6-trihydroxy- acetophenone (51) were found to show potent inhibitory activity.

PMID: 11825658 [PubMed - indexed for MEDLINE]

: Phytomedicine 2001 Sep;8(5):377-81Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?db=PubMed&cmd=Display&dopt=pubmed_pubmed&from_uid=11695881> Links <javascript:PopUpMenu2_Set(Menu11695881,",",",",",");>

Aldose reductase inhibitors from the fruits of Caesalpinia ferrea Mart.

Ueda H, Tachibana Y, Moriyasu M, Kawanishi K, Alves SM.

Kobe Pharmaceutical University, Japan.

Aldose reductase inhibitors were isolated from an extract of the dry fruits of Caesalpinia ferrea Mart. (Leguminosae). Compound 2 was identified as ellagic acid by comparison with a reference sample. The structure of compound 1 was elucidated as 2-(2,3,6-trihydroxy-4-carboxyphenyl) ellagic acid on the basis of spectral evidence, especially 2D-NMR data (HMQC, HMBC and NOESY). These two compounds inhibited aldose reductase in a non-competitive manner.

PMID: 11695881 [PubMed - indexed for MEDLINE]

: Z Naturforsch [C] 2003 Jan-Feb;58(1-2):70-5Related Articles, <http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?db=PubMed&cmd=Display&dopt=pubmed_pubmed&from_uid=12622230> Links <javascript:PopUpMenu2_Set(Menu12622230,",",",",",");>

Constituents of antibacterial extract of Caesalpinia paraguariensis Burk.

Woldemichael GM, Singh MP, Maiese WM, Timmermann BN.

Department of Pharmacology and Toxicology, Division of Medicinal and Natural Products Chemistry, College of Pharmacy, University of Arizona, 1703 E. Mabel St., Tucson, AZ 85721-0207, USA.

The Argentinean legume Caesalpinia paraguariensis Burk. (Fabaceae) was selected for further fractionation work based on the strong antimicrobial activity of its CH2Cl2-MeOH (1:1 v/v) extract against a host of clinically significant microorganisms, including antibiotic resistant strains. 1D and 2D NMR enabled the identification of the novel benzoxecin derivative caesalpinol along with the known compounds bilobetin, stigma-5-en-3-O-beta-6'-stearoylglucopyranoside, stigma-5-en-3-beta-6'-palmitoylglucopyranoside, stigma-5-en-3-beta-glucopyranoside, oleanolic acid, 3-O-(E)-hydroxycinnamoyl oleanolic acid, betulinic acid, 3-O-(E)-hydroxycinnamoyl betulinic acid, and lupeol from the active fractions. Oleanolic acid was found active against Bacillus subtilis and both methicillin-sensitive and -resistant Staphylococcus aureus with MICs of 8 (17.5 microM), 8 and 64 (140 microM) microg/ml, respectively. The rest of the compounds, however, did not show activity.

PMID: 12622230 [PubMed - in process]