

全国中文核心期刊
中国科技核心期刊
中国农业核心期刊
RCCSE中国核心学术期刊
中国科学引文数据库 (CSCD) 期刊
CAB International 收录期刊
美国《生物学文摘》收录期刊
美国《化学文摘》(CA) 收录期刊

首页 (/) 期刊介绍 编委会 投稿须知 期刊订阅 广告合作 联系我们 返回主页
(/Corp/10.aspx) (/Corp/3600.aspx) (/Corp/5006.aspx) (/Corp/50.aspx) (http://www.haasep.cn/)

«上一篇 (DArticle.aspx?type=view&id=201001038)
下一篇 (DArticle.aspx?type=view&id=201001040)



PDF下载 (pdfdown.aspx?Sid=201001039)

+分享
(http://www.jiathis.com/share?uid=1541069)



微信公众号: 大豆科学

[1]陈韵,石展望,黄晓敏.超声波辅助提取大豆总木脂素及其含量分析[J].大豆科学,2010,29(01):168-170,173.
[doi:10.11861/j.issn.1000-9841.2010.01.0168]
CHEN Yun,SHI Zhan-wang,HUANG Xiao-min.Ultrasonic-assisted Extraction of Total Lignans and Its Content Analysis in Soybeans[J].Soybean Science,2010,29(01):168-170,173.[doi:10.11861/j.issn.1000-9841.2010.01.0168]

点击复制

超声波辅助提取大豆总木脂素及其含量分析

《大豆科学》 [ISSN:1000-9841 /CN:23-1227/S] 卷: 第29卷 期数: 2010年01期 页码: 168-170, 173 栏目: 出版日期: 2010-02-25

Title: Ultrasonic-assisted Extraction of Total Lignans and Its Content Analysis in Soybeans

文章编号: 1000-9841 (2010) 01-0168-03

作者: 陈韵¹ (KeySearch.aspx?type=Name&Sel=陈韵); 石展望² (KeySearch.aspx?type=Name&Sel=石展望); 黄晓敏¹ (KeySearch.aspx?type=Name&Sel=黄晓敏)

1. 韶关学院 生物科学系, 广东 韶关 512005;
2. 广西民族大学 化学与生态工程学院, 广西 南宁 530006

Author(s): CHEN Yun¹ (KeySearch.aspx?type=Name&Sel=CHEN Yun); SHI Zhan-wang² (KeySearch.aspx?type=Name&Sel=SHI Zhan-wang); HUANG Xiao-min¹ (KeySearch.aspx?type=Name&Sel=HUANG Xiao-min)

1. Bioscience Department of Shaoguan University, Shaoguan 512005, Guangdong;
2. Chemical and Ecological Engineering College of Guangxi Ethnic University, Nanning 530006, Guangxi, China

关键词: 大豆 (KeySearch.aspx?type=Keyword&Sel=大豆); 总木脂素 (KeySearch.aspx?type=Keyword&Sel=总木脂素); 超声波辅助提取 (KeySearch.aspx?type=Keyword&Sel=超声波辅助提取); 紫外-可见分光光度法 (KeySearch.aspx?type=Keyword&Sel=紫外-可见分光光度法)

Keywords: Soybean (KeySearch.aspx?type=Keyword&Sel=Soybean); Total lignans (KeySearch.aspx?type=Keyword&Sel=Total Lignans); Ultrasonic-assisted extraction (KeySearch.aspx?type=Keyword&Sel=Ultrasonic-assisted extraction); UV-Vis (KeySearch.aspx?type=Keyword&Sel=UV-Vis)

分类号: TS214.2

DOI: 10.11861/j.issn.1000-9841.2010.01.0168 (http://dx.doi.org/10.11861/j.issn.1000-9841.2010.01.0168)

文献标志码: A

摘要: 以乙醇为浸提溶剂, 超声波辅助提取不同品种大豆中的木脂素, 并用紫外-可见分光光度法对其含量进行分析, 同时对浸提溶剂、料液比、浸提时间及次数等因素进行比较。结果表明: 以乙醇为浸提溶剂, 料液比在1/8~1/12范围, 浸提时间20 min, 浸提2次效果比较理想; 标准对照品在0~0.18 mg · mL⁻¹浓度范围内吸光度与其总木脂素含量呈良好的线性关系, 回归方程 A=6.081c+0.0445, 相关系数r=0.9998, 总木脂素检出限8.3 × 10⁻⁵ mg · mL⁻¹, 平均回收率为94.4%, RSD为1.2%。该方法简便、实用、可靠, 可对大豆木脂素的深入研究提供参考。

Abstract: Total lignans in several soybean samples were detected by UV-Vis with the ultrasonic-assisted extraction in this paper. The result showed that by twice extraction it can get ideal effect with ethanol as extracting reagent in the material/reagent ratio of 1/8~1/12. The relationship between standard substance concentration within 0~0.18 mg · mL⁻¹ and absorbance remained better linear. The regression equation was A=6.081c+0.0445, with the correlation coefficient r=0.9998, the detection limit was 8.3 × 10⁻⁵ mg · mL⁻¹ with the average recovery of 94.4% and the RSD of 1.2%. Results suggest the method is convenient and practical to detect lignans from soybean.

参考文献/References:

- [1]Masso Hirose.Effects of arctiin on PhI-induced mammary, colonic and pancreatic carcinogenesis in female Sprague rats and MeIQ induced hepatocarcinogenesis in male F334 rats[J].Cancer, 2000, 155(1):793-797.
- [2]Chen D F, Zhangs x, Xie L, et al. Anti-AIDS Agents-X X XI, structure-activity correlations of gomisin-G relates anti HIV lignans from Kadsura interior and of relates synthetic analogs[J].Bioorganic & Medicinal Chemistry, 1997, 5(8):1715-1722.
- [3]Kanae Yamashita, Yoshie Iizuka, Tomoko Imai, et al. Sesame seed and its lignans produce marked enhancement of vitamin E activity in rate fed a low α -tocopherol diet[J].Lipids, 1998, 33(6):567-571.
- [4]张永忠, 李小莉, 郭群. 辛夷木脂素类成分抗血小板活化因子作用的研究[J]. 湖北中约杂志, 2001, 23(10):7-10. (Zhang Y Z, Li X L, Guo Q. Study on action of lignans composition of flos magnoliae resisting platelet activating factor[J]. Hubei Journal of Traditional Chinese Materia Medica, 2001, 23(10):7-10.
- [5]刘春龙, 李中秋, 孙海霞, 等. 大豆异黄酮的生理作用及其在医学方面的研究进展[J]. 大豆科学, 2008, 27(4):693-695. (Liu C L, Li Z Q, Sun H X, et al. Research progress and physiological function of soybean isoflavone on medicine[J]. Soybean Science, 2008, 27(4):693-695.

- [6] 周建芹, 大豆异黄酮提取工艺优化及其活性研究[J]. 大豆科学, 2007, 26(2): 276-279. (Zhou J Q. Optimization of extraction technology of soybean isoflavones and its physiological activity analysis[J]. Soybean Science, 2007, 26(2): 276-279.
- [7] 谢莎丽, 石凯, 石元刚. 大豆低聚糖和低聚肽对高脂血症大鼠抗氧化作用及胆汁酸代谢的影响[J]. 重庆医学, 2009, 38(8):922-924. (Xie S L, Shi K, Shi Y G. Effects of soy oligosaccharides and peptides on vasoactive substances and apolipoprotein levels in hyperlipidemia rats[J]. Chongqing Medicine, 2009, 38(8):922-924.
- [8] 吴素萍, 田立强. 大豆皂苷的生理功能及其提取纯化的研究现状[J]. 大豆科学, 2008, 27(5):883-887. (Wu S P, Tian L Q. Research status quo of extraction and purification and physiological functions of soybean Saponin[J]. Soybean Science, 2008, 27(5):883-887.)
- [9] 孙丽华, 王巧懿, 江月仙, 等. 比色法测定还留胶囊中五味子素的含量[J]. 浙江省医学科学院学报, 2002, 13(1):25-26. (Sun L H, Wang Q Y, Jiang Y X, et al. Determination of Schisandrins in Huanshao capsule by colorimetry[J]. Acta Academiae Medicinae Zhejiang, 2002, 13(1):25-26.)
- [10] 杨毅, 张成路, 王喆, 等. 木脂素抗艾滋病病毒研究[J]. 化学进展, 2003, 15(4):327-331. (Yang Y, Zhang C L, Wang Z, et al. Advances in lignans with Anti-HIV properties[J]. Progress in Chemistry, 2003, 15(4):327-331.

相似文献/References:

- [1] 刘章雄, 李卫东, 孙石, 等. 1983~2010年北京大豆育成品种的亲本地理来源及其遗传贡献[J]. (article.aspx?type=view&id=201301001) 大豆科学, 2013, 32(01):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
LIU Zhang-xiong, LI Wei-dong, SUN Shi, et al. Geographical Sources of Germplasm and Their Nuclear Contribution to Soybean Cultivars Released during 1983 to 2010 in Beijing[J]. Soybean Science, 2013, 32(01):1. [doi:10.3969/j.issn.1000-9841.2013.01.002]
- [2] 李彩云, 余永亮, 杨红旗, 等. 大豆脂质转运蛋白基因GmLTP3的特征分析[J]. (article.aspx?type=view&id=201301002) 大豆科学, 2013, 32(01):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
LI Cai-yun, YU Yong-liang, YANG Hong-qi, et al. Characteristics of a Lipid-transfer Protein Gene GmLTP3 in Glycine max[J]. Soybean Science, 2013, 32(01):8. [doi:10.3969/j.issn.1000-9841.2013.01.003]
- [3] 王明霞, 崔晓霞, 薛晨晨, 等. 大豆耐盐基因GmHAL3a的克隆及RNAi载体的构建[J]. (article.aspx?type=view&id=201301003) 大豆科学, 2013, 32(01):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
WANG Ming-xia, CUI Xiao-xia, XUE Chen-chen, et al. Cloning of Halotolerance 3 Gene and Construction of Its RNAi Vector in Soybean (Glycine max)[J]. Soybean Science, 2013, 32(01):12. [doi:10.3969/j.issn.1000-9841.2013.01.004]
- [4] 张春宝, 李玉秋, 彭宝, 等. 线粒体ISSR与SCAR标记鉴定大豆细胞质雄性不育系与保持系[J]. (article.aspx?type=view&id=201301005) 大豆科学, 2013, 32(01):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
ZHANG Chun-bao, LI Yu-qiu, PENG Bao, et al. Identification of Soybean Cytoplasmic Male Sterile Line and Maintainer Line with Mitochondrial ISSR and SCAR Markers[J]. Soybean Science, 2013, 32(01):19. [doi:10.3969/j.issn.1000-9841.2013.01.005]
- [5] 卢清瑶, 赵琳, 李冬梅, 等. RAV基因对拟南芥和大豆不定芽再生的影响[J]. (article.aspx?type=view&id=201301006) 大豆科学, 2013, 32(01):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
LU Qing-yao, ZHAO Lin, LI Dong-mei, et al. Effects of RAV gene on Shoot Regeneration of Arabidopsis and Soybean[J]. Soybean Science, 2013, 32(01):23. [doi:10.3969/j.issn.1000-9841.2013.01.006]
- [6] 杜景红, 刘丽君. 大豆fad3c基因沉默载体的构建[J]. (article.aspx?type=view&id=201301007) 大豆科学, 2013, 32(01):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
DU Jing-hong, LIU Li-jun. Construction of fad3c Gene Silencing Vector in Soybean[J]. Soybean Science, 2013, 32(01):28. [doi:10.3969/j.issn.1000-9841.2013.01.007]
- [7] 张力伟, 樊颖伦, 牛腾飞, 等. 大豆“冀黄13”突变体筛选及突变体库的建立[J]. (article.aspx?type=view&id=201301008) 大豆科学, 2013, 32(01):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
ZHANG Li-wei, FAN Ying-lun, NIU Teng-fei, et al. Screening of Mutants and Construction of Mutant Population for Soybean Cultivar "Jihuang13" [J]. Soybean Science, 2013, 32(01):33. [doi:10.3969/j.issn.1000-9841.2013.01.008]
- [8] 盖江南, 张彬彬, 吴瑶, 等. 大豆不定胚悬浮培养基因型筛选及基因枪遗传转化的研究[J]. (article.aspx?type=view&id=201301009) 大豆科学, 2013, 32(01):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
GAI Jiang-nan, ZHANG Bin-bin, WU Yao, et al. Screening of Soybean Genotypes Suitable for Suspension Culture with Adventitious Embryos and Genetic Transformation by Particle Bombardment[J]. Soybean Science, 2013, 32(01):38. [doi:10.3969/j.issn.1000-9841.2013.01.009]
- [9] 王鹏飞, 刘丽君, 唐晓飞, 等. 适于体细胞胚发生的大豆基因型筛选[J]. (article.aspx?type=view&id=201301010) 大豆科学, 2013, 32(01):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
WANG Peng-fei, LIU Li-jun, TANG Xiao-fei, et al. Screening of Soybean Genotypes Suitable for Somatic Embryogenesis [J]. Soybean Science, 2013, 32(01):43. [doi:10.3969/j.issn.1000-9841.2013.01.010]
- [10] 刘德兴, 年海, 杨存义, 等. 耐酸铝大豆品种资源的筛选与鉴定[J]. (article.aspx?type=view&id=201301011) 大豆科学, 2013, 32(01):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]
LIU De-xing, NIAN Hai, YANG Cun-yi, et al. Screening and Identifying Soybean Germplasm Tolerant to Acid Aluminum [J]. Soybean Science, 2013, 32(01):46. [doi:10.3969/j.issn.1000-9841.2013.01.011]

备注/Memo 基金项目: 广东省科技计划资助项目 (2005B33001004)

第一作者简介: 陈韵 (1965-), 男, 硕士, 研究方向为生物无机化学。E-mail: yunchen68@163.com.

更新日期/Last Update: 2014-09-13