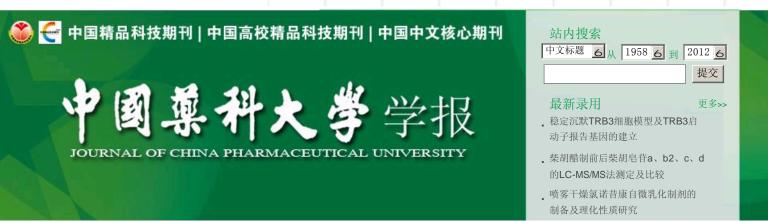


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## 大鼠肠内菌对毛冬青皂苷ilexsaponin A<sub>1</sub>的代谢转化

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中文摘要:采用HPLC法研究大鼠肠内菌对毛冬青皂苷ilexsaponin  $A_1$ 的代谢作用。研究采用Kromasil 100-5  $C_{18}$ (250 mmx4.6 mm)为色谱柱,流动相为乙腈-0.02%三氟乙酸梯度洗脱,流速:1.0 mL/min,柱温:30  $\mathbb C$  。将ilexsaponin  $A_1$ 加至大鼠肠内菌培养液中,温孵一定时间后,分析体外代谢产物和代谢模式;大鼠灌胃给予ilexsaponin  $A_1$ ,分析尿液和粪便中的代谢产物,同时测定粪便样品中原型物和代谢产物的含量。结果表明,离体培养大鼠肠内菌可代谢ilexsaponin  $A_1$ ,其主要代谢产物为其苷元ilexgenin  $A_1$ ,培养48 h后,约93.12%的ilexsaponin  $A_1$  被转化成ilexgenin  $A_1$  大鼠在体实验中,尿液未检测到原型物及代谢物,在粪便中可检测到原型物和代谢物苷元ilexgenin  $A_1$  ilexsaponin  $A_1$ 经口给予后经原物和代谢产物ilexgenin  $A_1$ 排除体外的量高达89.85%。研究结果表明:ilexsaponin  $A_1$ 经口给予后大部分经肠内菌群代谢后被排出体外,主要代谢产物为其苷元。

中文关键词: 毛冬青 肠内菌群 代谢 生物转化

## Metabolic transformation of ilexsaponin A₁ by intestinal flora

Abstract: A high-performance liquid chromatography method was used to investigate the metabolic transformation characteristics of ilexsaponin A<sub>1</sub> by rat intestinal flora in *vitro* and in *vivo*. The HPLC separation was performed on a reversed-phase Kromasil 100-5 C <sub>18</sub> column (250 mm×4.6 mm) at a temperature of 30 °C and the mobile phase system consists of acetonitrile and trifluoroacetic acid (0.02%) in water using a gradient elution with the flow rate of 1.0 mL/min. *In vitro* samples were prepared by incubating ilexsaponin A<sub>1</sub> with intestinal flora of rats. *In vivo* samples including feces and urine samples were collected individually after oral administration of ilexsaponin A<sub>1</sub> to healthy rats. Then the *in vivo* and *in vitro* metabolism of ilexsaponin A<sub>1</sub> was investigated using the established HPLC method. The results showed that ilexsaponin A<sub>1</sub> could be metabolized to its aglycone (ilexgenin A) by rat intestinal flora *in vitro*, and after incubating for 48 h, about 93.12% of ilexsaponin A<sub>1</sub> was metabolized to ilexgenin A. *In vivo*, ilexsaponin A<sub>1</sub> and its aglycone were found in feces, but not in urine. It was found that ilexsaponin A<sub>1</sub> could be metabolized to its aglycone by intestinal flora in *vitro* and in *vivo*, and after oral administration about 89.85% of ilexsaponin A<sub>1</sub> was exerceted as its prototype and metabolites.

keywords: Ilex pubescens Hook et Arn intestinal flora metabolism biotransformation

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