

LC/DAD/MSD技术研究大鼠服药胆汁中盐酸非洛普I相代谢产物

丁黎;张正行;安登魁;倪沛洲;王广基;

1.中国药科大学药物分析教研室; 2.有机化学教研室; 3.新中新药研究中心, 江苏南京 210009

摘要:

目的 研究大鼠服药后胆汁中盐酸非洛普(DDPH)I相代谢物。方法 大鼠做胆管插管, 分别收集ipDDPH之前的空白胆汁及服药后12h内的服药胆汁, 将大鼠胆汁以葡糖醛酸酶水解后进C-18SPE小柱进行纯化富集, 再进行LC/DAD/MSD分析; 同时将合成的6个DDPH模拟代谢物M₁-M₆的对照品混合液按相同条件进行LC/DAD/MSD分析对照。结果 大鼠服药胆汁色谱图中峰A, B, C, D, E和F分别与M₁, M₂, M₃, M₅, M₄和M₆的保留时间、紫外吸收光谱、分子量及碎片离子完全一致。结论 M₁, M₂, M₃, M₄, M₅和M₆为大鼠ipDDPH后产生的体内I相代谢物。

关键词: 盐酸非洛普; I相代谢物; LC/DAD/MSD; 药物代谢

STUDY ON THE PHASE I METABOLITES OF PHENOPROLAMINE HYDROCHLORIDE IN RAT BILE BY LC/DAD/MSD

DING Li; ZHANG Zheng-xing; AN Deng-kui; NI Pei-zhou; WANG Guang-ji

Abstract:

AIM To study the phase I metabolites of phenoprolamine hydrochloride (DDPH) in rat bile. METHODS DDPH was administered ip to bile duct-cannulated rats. Bile samples were collected before administration and up to 12 h after administration. After being treated with β-glucuronidase, the bile samples were purified and enriched with C-18 SPE columns, and then were analyzed by LC/DAD/MSD. The samples containing synthesized reference standards of DDPH metabolite 1-(2,6-dimethylphenoxy)-2-(3-methoxy-4-hydroxyphenylethylamino)-propane (M₁), 1-(2,6-dimethyl-3-hydroxyphenoxy)-2-(3,4-methoxy-phenylethylamino)-propane (M₂), 1-(2,6-dimethyl-4-hydroxyphenoxy)-2-(3,4-methoxyphenylethylamino)-propane (M₃), 1-(2,6-dimethyl-4-hydroxyphenoxy)-2-(3-hydroxy-4-methoxyphenylethylamino)-propane (M₄), 1-(2,6-dimethyl-3-hydroxyphenoxy)-2-(3-hydroxy-4-methoxyphenylethylamino)-propane (M₅) and 1-(2,6-dimethyl-4-hydroxyphenoxy)-2-(3-methoxy-4-hydroxyphenylethylamino)-propane (M₆) were analyzed by LC/DAD/MSD under identical conditions. RESULTS The retention times, UV spectra, molecular weights and production spectra (obtained by collision-induced dissociation)of the apparent ions of peak A, B, C, D, E and F in the total ion chromatogram of DDPH treated rat bile sample were consistent with those of M₁, M₂, M₃, M₅, M₄ and M₆, respectively. CONCLUSION M₁, M₂, M₃, M₄, M₅ and M₆ were identified as the phase I metabolites of DDPH in the rat.

Keywords: phase I metabolite LC/DAD/MSD drug metabolism phenoprolamine hydrochloride

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