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## 阿片受体信号调节相关蛋白RGS4及β-arrestin2在泻剂结肠大鼠结肠中的表达变化([PDF](#))

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Title: Expression profile of RGS4 and β-arrestin 2 in colon of cathartic colon rats

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关键词: 阿片受体; G蛋白信号调节因子4; β-抑制蛋白2; 便秘; 泻剂; 结肠; 表达; 大鼠

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摘要: 目的 探讨泻剂结肠大鼠结肠中阿片受体信号调节相关蛋白RGS-4和β-arrestin2的表达变化及意义。 方法 7~8周龄Wistar大鼠16只, 体质量(200±20)g, 雌雄各半, 按随机数字表法分为对照组(n=8)及泻剂结肠组(n=8, 饲养环境温度18~28℃, 相对湿度40%~80%)。对照组饲以普通软饲料, 泻剂结肠组饲以混有酚酞的饲料, 建立泻剂结肠大鼠模型。通过RT-PCR及Western blot方法对RGS-4和β-

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arrestin2在结肠中的表达进行相对定量分析。结果 两种阿片受体信号调节蛋白在泻剂结肠组及对照组大鼠结肠内均有不同程度的表达。RT-PCR结果显示泻剂结肠组RGS-4和 $\beta$ -arrestin2 mRNA相对表达水平明显高于对照组[ $(3.418 \pm 0.247) 4$  vs  $(0.9876 \pm 0.034) 1$ ], [ $(2.9744 \pm 0.214) 2$ ] vs [ $(0.9211 \pm 0.040) 1$ ],  $P < 0.01$ ]。Western blot检测结果显示RGS-4和 $\beta$ -arrestin2的表达在泻剂结肠组较对照组明显升高[ $(0.4034 \pm 0.049) 9$  vs  $(0.1153 \pm 0.010) 2$ , ( $0.9139 \pm 0.061$ ) 1] vs [ $(0.4676 \pm 0.043) 7$ ],  $P < 0.01$ ]。结论 RGS-4和 $\beta$ -arrestin2在泻剂结肠大鼠结肠中表达均明显增强, 提示其可能增强泻剂结肠大鼠结肠MOR信号传导调节功能。

**Abstract:** Objective To determine the expression profiles of regulator of G protein signaling-4 (RGS4) and  $\beta$ -arrestin2 in the colon of rats with cathartic colon. Methods Twenty Wistar rats of either sex, weighing  $200 \pm 20$  g, were randomly divided into control group ( $n=8$ ) and cathartic colon group ( $n=8$ ). Control group were given soft chows, while the rats in cathartic group were given chows premixed with phenolphthalein powder to establish rat model with cathartic colon. RT-qPCR and Western blotting were adopted to detect the expression of RGS4 and  $\beta$ -arrestin2. Results Both RGS4 and  $\beta$ -arrestin2 expressed distinctly in the colon of cathartic group and control group. The results of RT-qPCR showed that both RGS4 and  $\beta$ -arrestin2 were expressed more intensively in cathartic colon group than in control group ( $3.4183 \pm 0.2474$  vs  $0.9876 \pm 0.0341$ ,  $2.9744 \pm 0.2142$  vs  $0.9211 \pm 0.0401$ ,