

基础研究

不同浓度脂联素对HepG2细胞内甘油三酯含量的影响及其机制

阳琰*, 邓华聪, 龙健, 苏艳新, 瞿华, 胡振平

(重庆医科大学附属第一医院内分泌科, 重庆 400016)

摘要: 目的:观察不同浓度脂联素对HepG2细胞内载脂蛋白A5 (apoA5) mRNA和蛋白表达水平及甘油三酯(TG)含量的影响,探讨脂联素与TG之间的剂量依赖关系,为研究脂联素降低TG含量的机制奠定基础。方法:将正常生长的HepG2细胞分为对照组、低剂量脂联素组、中剂量脂联素组和高剂量脂联素组,分别用不同浓度(0、12.5、25.0和50.0 mg·L⁻¹)脂联素作用24 h,酶法检测各组HepG2细胞内TG含量,实时荧光定量PCR检测HepG2细胞内apoA5 mRNA表达水平,Western blotting法检测HepG2细胞内apoA5 mRNA蛋白表达水平。结果:与对照组比较,脂联素各组HepG2细胞内TG含量均明显降低(P<0.05);与低剂量脂联素组比较,中、高剂量脂联素组HepG2细胞内TG含量均明显降低(P<0.05),但高剂量组与中剂量组比较差异无统计学意义(P>0.05)。与对照组比较,脂联素各组HepG2细胞内apoA5 mRNA和蛋白表达均明显增加(P<0.05);与低剂量脂联素组比较,中、高剂量脂联素组HepG2细胞内apoA5 mRNA和蛋白表达均明显增加(P<0.05),但高剂量组与中剂量组比较差异无统计学意义(P>0.05)。结论:脂联素能降低HepG2细胞TG含量,并呈剂量依赖关系,提示脂联素降低肝脏中TG含量可能与其增加apoA5表达有关。

关键词: 脂联素 HepG2细胞 载脂蛋白A5 甘油三酯

Influence of adiponectin with different doses on triglyceride contents in HepG2 cells and its mechanism

YANG Yan*, DENG Hua-cong, LONG Jian, SU Yan-xin, QU Hua, HU Zhen-ping

(Department of Endocrinology, First Affiliated Hospital, Chongqing Medical University, Chongqing 400016, China)

Abstract: To observe the influence of adiponectin with different doses on apolipoprotein A5 (apoA5) mRNA and protein expression levels and triglyceride(TG) content in HepG2 cells and to investigate the relationship between adiponectin and TG and to establish foundation for study on the mechanism of adiponectin in decreasing TG content. Methods HepG2 cells were divided into control group, low dose adiponectin group, middle dose adiponectin group and high dose adiponectin group. The HepG2 cells in various groups were treated with different doses of adiponectin (0, 12.5, 25.0 and 50.0 mg·L⁻¹) for 24 h, then the TG contents in HepG2 cells in various groups were detected with enzyme method. The expression levels of apoA5 mRNA in HepG2 cells were detected with real time fluorescence quantitative PCR method. The expression levels of apoA5 protein in HepG2 cells were detected with Western blotting method. Results Compared with control group, the TG contents in HepG2 cells in different doses of adiponectin groups were decreased obviously (P<0.05). Compared with low dose group, the TG contents in HepG2 cells in middle dose group and high dose group were decreased obviously (P<0.05), but there was no significant difference between high dose group and middle dose group (P>0.05). Compared with control group, the gene and protein expression levels of apoA5 in HepG2 cells in different doses of adiponectin groups were increased obviously (P<0.05). Compared with low dose group, the gene and protein expression levels of apoA5 in HepG2 cells in middle dose group and high dose group were increased obviously (P<0.05), but there was no significant difference between high dose group and middle dose group (P>0.05). Conclusion Adiponectin may decrease the TG content in HepG2 cells in an dose-dependent manner. It indicates that the mechanism of adiponectin in decreasing TG content may be related to increasing the expression of apoA5 in HepG2 cells.

Keywords: adiponectin HepG2 cells apolipoprotein A5 triglyceride

收稿日期 2012-09-26 修回日期 网络版发布日期 2013-03-28

DOI: 10.7694/jldxyxb20130201

基金项目:

国家自然科学基金资助课题(30570744);遵义医学院附属医院中青年科研启动基金资助课题[院字(2010)03号];遵义医学院博士启动基金资助课题(F-574)

通讯作者: 邓华聪

扩展功能

本文信息

- ▶ Supporting info
- ▶ PDF(OKB)
- ▶ [HTML全文]
- ▶ 参考文献[PDF]
- ▶ 参考文献

服务与反馈

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ 引用本文
- ▶ Email Alert
- ▶ 文章反馈
- ▶ 浏览反馈信息

本文关键词相关文章

- ▶ 脂联素
- ▶ HepG2细胞
- ▶ 载脂蛋白A5
- ▶ 甘油三酯

本文作者相关文章

- ▶ 阳琰*
- ▶ 邓华聪
- ▶ 龙健
- ▶ 苏艳新
- ▶ 瞿华
- ▶ 胡振平

PubMed

- ▶ Article by Yang Y
- ▶ Article by Deng H
- ▶ Article by Long J
- ▶ Article by Su Y
- ▶ Article by Qu H
- ▶ Article by Hu Z

作者简介: 阳 琰 (1980-), 女, 贵州省遵义市人, 副教授, 医学博士, 主要从事糖尿病及其并发症病因及防治研究。

作者Email: (Tel:023-65659595,E-mail:deng_huacong@yahoo.com.cn)

参考文献:

本刊中的类似文章

1. 赵行宇, 杨森, 周丽霞, 那文婷, 陆莉, 王译擎, 吴珏, 张巍. 胡桃醌对肝癌HepG2细胞的增殖抑制及诱导凋亡作用[J]. 吉林大学学报(医学版), 2013,39(2): 255-258
2. 孙严彤, 郭颖杰, 张梦亮, 崔相勇, 顾景凯. 新型 $\beta 2$ 受体激动剂川丁特罗对HepG2细胞中细胞色素 P450 mRNA表达的影响 [J]. 吉林大学学报(医学版), 2010,36(5): 862-865
3. 金珍婧, 李东复, 王永勤, 赵自然. 非酒精性脂肪性肝病患者外周血 Ghrelin、脂联素与炎性细胞因子检测的临床意义[J]. 吉林大学学报(医学版), 2010,36(4): 721-726
4. 王 茜, 杜珍武, 卜丽莎, 张桂珍. 四环素基因表达调控系统调控 β -半乳糖苷酶基因在肝癌细胞中的表达[J]. 吉林大学学报(医学版), 2009,35(2): 304-308
5. 刘雅明, 吴绥生, 尹艳春, 付昕光. 高脂血症与胆囊结石的关系[J]. 吉林大学学报(医学版), 2006,32(4): 708-710
6. 秦 玲, 雷 宇, 张尉华, 陈爱军, 黄可心, 刘丽辉. 动脉粥样硬化病变中过氧化物酶体增殖激活受体 γ 的表达[J]. 吉林大学学报(医学版), 2006,32(1): 43-4
7. 李明娟, 王 莹, 马 丽, 潘润铎. 阻塞性睡眠呼吸暂停低通气综合征患者治疗前后血脂的变化[J]. 吉林大学学报(医学版), 2005,31(5): 765-767
8. 韩春姬, 王冬明, 俞 星, 李莲姬, 朴永泉. 轮叶党参乙醇提取液预防大鼠脂质代谢紊乱的机制[J]. 吉林大学学报(医学版), 2005,31(4): 564-566

文章评论

反 馈 人	<input type="text"/>	邮箱地址	<input type="text"/>
反 馈 标 题	<input type="text"/>	验证码	<input type="text"/> 0520