

论著

CTGF反义寡核苷酸对血管紧张素II诱导的心肌成纤维细胞增殖、胶原合成的抑制效应

陈敏生¹, 区彩文¹, 张立建¹, 刘启才¹, 刘世明², 黄少华¹

1广州医学院, 广东 广州 510182; 2广州医学院第二附属医院心内科, 广东 广州 510260

收稿日期 2004-5-27 修回日期 2004-10-9 网络版发布日期 2009-9-13 接受日期 2004-10-9

摘要 目的: 研究结缔组织生长因子(CTGF)反义寡核苷酸对血管紧张素II诱导的心肌成纤维细胞增殖、胶原合成及CTGF表达的抑制作用。方法: 差速贴壁法分离新生SD大鼠心肌成纤维细胞(CFs)。反义、正义、错义CTGF寡核苷酸分别经阳离子脂质体介导转染CFs, 并与血管紧张素II(Ang II)10-6mol/L共培养48 h, 采用MTT法测CFs生长数目, 羟脯氨酸法测胶原蛋白含量, RT-PCR法及Western blotting法分别测CTGF mRNA及蛋白水平的表达。结果: Ang II可以在mRNA及蛋白水平明显促进CFs CTGF的表达(P<0.01), 且呈浓度-时间依赖性。CTGF反义链组的MTT反应A值、胶原蛋白含量、CTGF mRNA及蛋白水平的表达量均明显低于Ang II组(P<0.01), 而CTGF正义链组和错义链组与Ang II组无显著差异(P>0.05)。结论: Ang II刺激下产生的CFs CTGF mRNA和蛋白水平的表达上调, 可能是心肌纤维化传导通路中的关键环节, CTGF反义寡核苷酸可以序列特异性地阻断CTGF的介导, 从而抑制Ang II对心肌成纤维细胞增殖、胶原合成及CTGF表达的诱导作用, 进一步证实CTGF可能是拮抗心肌纤维化的特异性靶位。

关键词 [心肌](#); [纤维化](#) [结缔组织生长因子](#) [寡核苷酸类](#),反义

分类号 [R363](#)

Inhibitory effects of antisense oligonucleotides targeting connective tissue growth factor mRNA on the proliferation and collagen synthesis of cardiac fibroblasts

CHEN Min-sheng¹, OU Cai-wen¹, ZHANG Li-jian¹, LIU Qi-cai¹, LIU Shi-ming², HUANG Shao-hua¹

1Guangzhou Medical College, Guangzhou 510182, China; 2Department of Cardiology, The Second Affiliated Hospital, Guangzhou Medical Collgeg, Cuangzhou 510260, China

Abstract

AIM: To observe the effect of Ang II on the expression of connective tissue growth factor (CTGF) in cultured cardiac fibroblast (CFs), the antisense oligonucleotides (ASOND) was used to investigate whether CTGF is necessary for the proliferation and collagen synthesis of CFs. METHODS: CFs of SD rats were isolated and cultured. The proliferation and collagen synthesis of CFs were assessed by MTT assay and measuring hydroxyproline, respectively. The expression of CTGF mRNA and protein were detected by reverse-transcription PCR (RT-PCR) and Western blotting, respectively. RESULTS: Ang II could significantly increase the expression of CTGF both at mRNA and protein level in a dose and time-dependent manner (P<0.01). The MTT A value, the synthesis of collagen and the expression of CTGF in ASOND group were all obviously lower than in Ang II group (P<0.01). There was no significantly difference among Ang II group, sense OND group and missense OND group (P>0.05). CONCLUSION: It indicates that CTGF is involved in the process of myocardial fibrosis induced by Ang II, which may be a target for the treatment of cardiac fibrosis.

Key words [Myocardium](#) [Fibrosis](#) [Connective tissue growth factors](#) [Oligonucleotides](#) [antisense](#)

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(6956KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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](#)
- ▶ [复制索引](#)
- ▶ [Email Alert](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中包含“心肌; 纤维化”的相关文章](#)
- ▶ [本文作者相关文章](#)

- [陈敏生](#)
- [区彩文](#)
- [张立建](#)
- [刘启才](#)
- [刘世明](#)
- [黄少华](#)

通讯作者 陈敏生