

论著

胰蛋白酶可诱导肺上皮细胞分泌单核细胞趋化蛋白-1

王海燕, 何韶衡[△]

汕头大学医学院变态反应学与炎症学研究所, 广东 汕头 515031

收稿日期 2004-6-18 修回日期 2004-10-8 网络版发布日期 2009-9-23 接受日期 2004-10-8

摘要 目的: 探讨胰蛋白酶对人上皮细胞单核细胞趋化蛋白-1 (MCP-1) 分泌的影响。方法: 人肺上皮细胞系 A549 细胞分别接种于 12 孔培养板各孔内, 并分别用不同浓度的胰蛋白酶和/或胰蛋白酶抑制剂进行刺激。刺激时间为 2 h、8 h 和 16 h。用 ELISA 方法检测上清液中的 MCP-1 水平。结果: 经过 16 h 的培养, 胰蛋白酶可引起浓度相关性 MCP-1 释放高于基础量, 胰蛋白酶在浓度 3 $\mu\text{g/L}$ 时就可引起 MCP-1 的释放量增加, 100 $\mu\text{g/L}$ 时诱导 MCP-1 的释放量达高峰, 为基础分泌量的 3 倍, 胰蛋白酶浓度增加到 300 $\mu\text{g/L}$ 时, MCP-1 的释放量反而下降。大豆胰蛋白酶抑制剂可以抑制胰蛋白酶对 MCP-1 的释放作用。时间相关曲线表明, 胰蛋白酶从 2 h 起即可引起 MCP-1 释放, 16 h 达高峰。结论: 胰蛋白酶可促进人肺上皮细胞分泌 MCP-1, 大豆胰蛋白酶抑制剂可抑制此作用。

关键词 [胰蛋白酶](#); [上皮细胞](#); [单核细胞化学吸收蛋白质1](#)

分类号 [R363](#)

Induction of monocyte chemoattractant protein-1 secretion from lung epithelial cells by trypsin

WANG Hai-yan, HE Shao-heng

Allergy and Inflammation Research Institute, Shantou University Medical College, Shantou 515031, China

Abstract

AIM: To investigate the actions of trypsin on the secretion of monocyte chemoattractant protein-1 (MCP-1) from human lung epithelial cells. METHODS: A549 cells were cultured in a 12-well culture plate. The challenge was performed by addition of various concentrations of trypsin or trypsin inhibitor into each well, respectively. After 2 h, 8 h or 16 h, the reactions were terminated by removal of the supernatant from each well. A sandwich ELISA was used to determine the levels of MCP-1 in supernatants. RESULTS: Following 16 h incubation, trypsin was able to induce concentration-dependent secretion of MCP-1. As low as 3 $\mu\text{g/L}$ trypsin was able to induce MCP-1 release from epithelial cells, and the maximum of accumulated release of MCP-1 was observed with 100 $\mu\text{g/L}$ trypsin, which was 3 fold more than baseline release. However, trypsin at 300 $\mu\text{g/L}$ did not induce significant MCP-1 secretion. Soybean trypsin inhibitor (SBTI) inhibited trypsin-induced MCP-1 secretion, but α 1-antitrypsin (α 1-AT) did not. The time course showed that the actions of trypsin initiated at 2 h and reached their peak at 16 h. CONCLUSION: Trypsin is a potent secretagogue of MCP-1 release from cultured human lung epithelial cells, and itself action can be inhibited by SBTI.

Key words [Trypsin](#) [Epithelial cells](#) [Monocyte chemoattractant protein-1](#)

DOI: 1000-4718

通讯作者 何韶衡 shaohenghe@hotmail.com

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(1558KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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“胰蛋白酶; 上皮细胞; 单核细胞化学吸收蛋白质1”的 相关文章](#)
- ▶ [本文作者相关文章](#)

- [王海燕](#)
- [何韶衡](#)