

论著

灭活HIV-1颗粒对人CD4+T细胞活化和全血Th1/Th2细胞因子分泌的影响

黄秀艳; 曾耀英[△]; 赵令斋; 林长乐

暨南大学组织移植与免疫中心, 广东 广州 510632

收稿日期 2008-1-8 修回日期 2008-5-20 网络版发布日期 2009-2-8 接受日期 2008-5-20

摘要 目的: 体外研究AT-2灭活的HIV-1颗粒对人CD4+T细胞活化和全血(whole blood, WB) Th1/Th2细胞因子分泌的影响。

方法: AT-2灭活HIV-1 IIIIB型病毒颗粒, 运用ELISA法测定所制备的灭活病毒中p24抗原的含量, 按照1/500、1/50和1/5 (V/V)的浓度加入到WB中, 以植物血凝素(phytohemagglutinin, PHA)组为阳性对照; 24 h后, 收集WB培养上清, 运用流式微球分析法(cytometric bead array, CBA)检测WB分泌Th1 (IL-2、IFN- γ 和TNF- α)和Th2 (IL-4、IL-6和IL-10)细胞因子水平; 同时运用免疫荧光抗体染色技术结合流式细胞术检测WB中CD4+T细胞早期活化标记分子CD69的表达百分率。

结果: 我们所制备的灭活病毒中p24抗原的含量为85.5 $\mu\text{g/L}$; 24 h后, 空白对照组中, CD4+T细胞CD69的表达百分率为(1.62 \pm 0.63)%, PHA组为(38.82 \pm 6.00)%, HIV-1(1/500)组为(3.83 \pm 1.07)%, HIV-1(1/50)组为(5.94 \pm 0.85)%, HIV-1(1/5)组为(9.30 \pm 1.22)%; 空白对照组WB培养上清中细胞因子主要为IL-6和TNF- α , PHA组中Th1和Th2细胞因子全部升高, 3个浓度的HIV-1组中Th1和Th2细胞因子也全部升高。
结论: AT-2灭活的HIV-1 IIIIB颗粒能够明显引起WB中CD4+T细胞活化, 并上调WB培养上清中Th1和Th2细胞因子的水平, 其机制可能是除了HIV-1病毒蛋白的作用外, HIV-1出胞时, 许多宿主细胞来源的免疫分子整合到病毒颗粒包膜中, 而模拟抗原提呈细胞, 从而产生免疫调节作用。

关键词 [HIV颗粒](#); [细胞因子类](#); [CD4+T细胞](#)

分类号 [R363.2](#)

Effects of inactivated HIV-1 particles on human CD4+T cell activation and Th1/Th2 cytokine secretion in whole blood

HUANG Xiu-yan, ZENG Yao-ying, ZHAO Ling-zhai, LIN Chang-le

Institute for Tissue Transplantation & Immunology, Jinan University, Guangzhou 510632, China. E-mail: tzengyy@jnu.edu.cn

Abstract

AIM: To investigate the effects of AT-2-inactivated HIV-1 particles on human CD4+T cell activation and cytokine secretion in whole blood (WB) in vitro.
METHODS: HIV-1 IIIIB particles were inactivated by AT-2 chemical and the concentration of p24 antigen was determined by p24 ELISA. AT-2-inactivated HIV-1 IIIIB particles were added to human WB culture system in serial concentrations to stimulate the cells. PHA was used as positive control. After 24 h, all the cultural supernatants were harvested and the concentrations of Th1 (IL-2, IFN- γ and TNF- α) and Th2 (IL-4, IL-6 and IL-10) cytokines released to the supernatants were detected by cytometric bead array (CBA). The percentage of CD69 expression on CD4+T cells from WB was detected by immuno-fluorescence staining plus flow cytometry.
RESULTS: The concentration of p24 antigen in the AT-2-inactivated specimen was 85.5 $\mu\text{g/L}$. 24 h later, the percentage of CD69 expression on CD4+T cells from control group was (1.62 \pm 0.63) %, whereas it was (38.82 \pm 6.00)%, (3.83 \pm 1.07)%, (5.94 \pm 0.85)% and (9.30 \pm 1.22)% in PHA group, HIV-1 (1/500) group, HIV-1 (1/50) group and HIV-1 (1/5) group, respectively. Cytokines secreted by WB in control group were mainly TNF- α and IL-6. However, all the six cytokines tested were strikingly increased in PHA group, as well as in HIV-1 IIIIB groups.
CONCLUSION: AT-2-inactivated HIV-1 IIIIB particles activate CD4+T cells from WB, and up-regulate both Th1 and Th2 cytokine secretion in WB. Besides the effects of viral proteins, other mechanisms may be proposed that HIV-1

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [PDF\(10431KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [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 “HIV颗粒; 细胞因子类; CD4+T细胞” 的相关文章](#)
- ▶ [本文作者相关文章](#)

- [黄秀艳](#)
- [曾耀英](#)
- [赵令斋](#)
- [林长乐](#)

particles act as antigen presenting cell (APC) because many host-derived immune molecules are incorporated into HIV-1 envelop when it is released from infected cells by budding, and exert immune modulation.

Key words [HIV particles](#) [Cytokines](#) [CD4+T cells](#)

DOI: 1000-4718

通讯作者 曾耀英 tzengyy@jnu.edu.cn