

[1]王本瀚,宋来君,姚安会,等.不同刺激对N9小胶质细胞炎性细胞因子分泌及存活的影响[J].第三军医大学学报,2014,36(18):1899-1903.

点击

Wang Benhan, Song Laijun, Yao Anhui, et al. Inflammatory cytokines expression and survival of N9 microglia after different stimulations[J]. J Third Mil Med Univ, 2014, 36(18): 1899-1903.

复制

## 不同刺激对N9小胶质细胞炎性细胞因子分泌及存活

### 导航/NAVIGATE

[本期目录/Table of Contents](#)

[下一篇/Next Article](#)

[上一篇/Previous Article](#)

### 工具/TOOLS

[引用本文的文章/References](#)

[下载 PDF/Download PDF\(2693KB\)](#)

[立即打印本文/Print Now](#)

[查看/发表评论/Comments](#)

[导出](#)

### 统计/STATISTICS

[摘要浏览/Viewed](#)

全文下载/Downloads 59

评论/Comments 46

### 评论/COMMENT

[登陆留言](#) [点击查看](#)



更新日期/Last Update: 2014-09-18

《第三军医大学学报》[ISSN:1000-5404/CN:51-1095/R] 卷: 36 期数: 2014年第18期 页码: 1899-1903 栏目: 论著 出版日期: 2014-09-30

Title: Inflammatory cytokines expression and survival of N9 microglia after different stimulations

作者: [王本瀚](#); [宋来君](#); [姚安会](#); [李经纶](#); [唐斌](#); [刘伟](#); [卫润斐](#); [曹付强](#)  
解放军第153中心医院神经外科; 郑州大学第一附属医院神经外科

Author(s): [Wang Benhan](#); [Song Laijun](#); [Yao Anhui](#); [Li Jinglun](#); [Tang Bin](#); [Liu Wei](#); [Wei Runfei](#); [Cao Fuqiang](#)

Department of Neurosurgery, No. 153 Central Hospital of PLA, Zhengzhou, Henan Province, 450042; Department of Neurosurgery, First Affiliated Hospital, Zhengzhou University, Zhengzhou, Henan Province, 450052, China

关键词: [N9小胶质细胞](#); [极化](#); [炎性细胞因子](#); [细胞死亡](#)

Keywords: [N9 microglia](#); [polarization](#); [inflammatory cytokines](#); [cell death](#)

分类号: R322.8; R363.27; R392.11

文献标志码: A

摘要:

**目的** 探讨不同刺激对N9小胶质细胞炎性细胞因子分泌及存活的影响。 **方法** 体外培养N9小胶质细胞,分为空白对照组(Control组)、M1型刺激组(LPS+IFN- $\gamma$ 组)、M2型刺激组(IL-4组)。刺激24 h后,通过实时荧光定量PCR及ELISA检测N9小胶质细胞在极化状态下细胞因子的表达;同时体外培养N9小胶质细胞,分为Control组、LPS组、IFN- $\gamma$ 组、LPS+IFN- $\gamma$ 组及IL-4组,通过Hoechst-PI染色的方法检测不同因子对细胞死亡的影响,并用Western blot检测各组Caspase-3的表达。 **结果** LPS+IFN- $\gamma$ 组N9细胞促炎因子表达明显高于Control组及IL-4组 ( $P<0.01$ ), IL-4组N9细胞抑炎因子的表达明显高于Control组及LPS+IFN- $\gamma$ 组 ( $P<0.01$ )。在细胞存活方面, IFN- $\gamma$ 组及LPS+IFN- $\gamma$ 组N9细胞的死亡数及Caspase-3的表达明显高于Control组、LPS组、IL-4组 ( $P<0.05$ ,  $P<0.01$ )。 **结论** N9细胞可发生极化,在不同极化状态表达不同的炎性因子; IFN- $\gamma$ 可影响N9细胞的存活,其可能是通过Caspase-3而导致细胞死亡。

Abstract: Objective To investigate inflammatory cytokines expression and survival of N9 microglia after different stimulations. Methods *In vitro*, cultured N9 microglia were divided into a control group, a LPS+IFN- $\gamma$  stimulation group (M1)

and an IL-4 stimulation group (M2). Total RNA were extracted and inflammatory cytokine mRNA were detected through Q-RT-PCR and total culture media were collected to detect the concentration of inflammatory cytokines through ELISA, 24 h after stimulation. N9 microglia were divided into a control group, a LPS group, an IFN- $\gamma$  group, a LPS+IFN- $\gamma$  group, and an IL-4 group to study the effects of the cytokines on N9 microglia survival. The survival rates of each group were detected through Hoechst-PI staining. The expression of caspase-3 was detected by Western blotting.

**Results** In the aspect of inflammatory cytokines secretion, the cells in group M1 expressed more pro-inflammatory cytokines than those in the control group and group M2 ( $P<0.01$ ). The cells in group M2 expressed more anti-inflammatory cytokines than those in the other 2 groups ( $P<0.01$ ). In the aspect of cell survival, we found the cells in the IFN- $\gamma$  and LPS+IFN- $\gamma$  groups had lower survival rates and higher caspase-3 expression than those in other groups ( $P<0.05$ ,  $P<0.01$ ).

**Conclusion** N9 microglia can be polarized like macrophages and express different inflammatory cytokines after different stimulations. IFN- $\gamma$  may affect the survival of N9 microglia through regulating Caspase-3 expression.

---

参考文献/References:

王本瀚, 宋来君, 姚安会, 等. 不同刺激对N9小胶质细胞炎性细胞因子分泌及存活的影响[J]. 第三军医大学学报, 2014, 36(18): 1899-1903.

更新日期/Last Update: 2014-09-18