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论著

# 清火败毒饮对巨噬细胞高迁移率族蛋白1表达的影响

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摘要：

目的：观察中药清火败毒饮方（qinghuobaiduyin,QHBDY）对晚期炎症因子高迁移率族蛋白1（high mobility group box chromosomal protein 1,HMGB1）在RAW264.7巨噬细胞中表达的影响,以了解其抗炎症反应的细胞内源性保护机制。方法：以RAW264.7巨噬细胞为研究对象，通过正常SD大鼠血清、烧伤SD大鼠血清和中药QHBDY治疗后SD大鼠血清干预细胞，应用RT-PCR技术检测细胞中HMGB1表达。结果：正常SD大鼠血清干预RAW264.7巨噬细胞后，HMGB1 mRNA的表达量与正常RAW264.7巨噬细胞中HMGB1表达量差异无统计学意义（P＞0.05）；应用烧伤SD大鼠血清干预RAW264.7巨噬细胞，HMGB1的表达量在干预3 h增高后又降为低水平表达，至18 h后急剧增加，于36 h达到高峰，至48 h仍维持高水平表达；应用中药QHBDY治疗后SD大鼠血清干预RAW264.7巨噬细胞，HMGB1的表达量在干预3 h增高后又降为低水平表达，于24 h出现缓慢增加，但较烧伤SD大鼠血清干预组低，两组差别具有统计学意义（P＜0.05）。结论：烧伤血清能引起HMGB1在RAW264.7中的高表达；中药QHBDY治疗后SD大鼠血清能降低RAW264.7中HMGB1的表达

关键词： 清火败毒饮方 中药 RAW264.7巨噬细胞 高迁移率族蛋白1 血清 炎症反应

## Effect of qinghuobaiduyin on the expression of high mobility group box chromosomal protein 1 in macrophage

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Abstract:

ObjectiveTo observe the expression of high mobility group box chromosomal protein 1(HMGB1) in RAW264.7 macrophages after interfering with burning serum and qinghuobaidu-yin (QHBDY), and to find out the endogenous protection mechanism of QHBDY resisting inflammation reaction. MethodsRT-PCR was used to detect the expression of HMGB1 in RAW264.7 macrophages after interfering RAW264.7 macrophages with normal SD rat serum, burning SD rat serum, and QHBDY feeding SD rat serum.ResultsSmall quantity of HMGB1 mRNA was expressed in RAW264.7. The expression of HMGB1 mRNA fluctuated around the standard level after interfering with normal serum of SD rats. The expression of HMGB1 mRNA rose at 3 h, and then decreased to the standard level; at 18 h,it rose rapidly; at 36 h, it reached the peak; and at 48 h, it remained at the high level after interfering with burning serum. The expression of HMGB1 mRNA increased at 3 h, and then decreased to the standard level. At 24 h,it started to rise after interfering with herb serum, and was lower than that of` the burning serum group （P<0.05）. ConclusionBurning serum can increase the expression of HMGB1 mRNA in RAW264.7. QHBDY can decrease the high expression of HMGB1 mRNA in RAW264.7 caused by burning serum.

Keywords: qinghuobaiduyin fang；Chinese medicine;RAW264.7 macrophages；high mobility group box chromosomal protein 1；serum；inflammation reaction

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参考文献：

［1］Ni Choileain N，Redmond H P. The immunological consequence of injury［J］. Surgeon，2006，4

（1）：23-31.
［2］Tjardes T，Neugebauer E. Sepsis research in the next millennium：concentrate on the software rather than the hardware［J］. Shock，2002，17（1）：1-8.
［3］崔义泽，罗中华，薛漪波，等. 中药合剂对烧伤患者外周血中T淋巴细胞增殖和白细胞介素2产生的调理作用［J］.中国中西医结合杂志，1999，19（7）：407-409.
CUI Yize,LUO Zhonghua,XUE Yibo,et al. Enhancing effect of chinese herbal medicine mixture on peripheral blood lymphocyte proliferation and interleukin 2 production in patients of burn［J］. Chinese Journal of Integrated Traditional and Western Medicine, 1999，19（7）：407-409.
［4］李非，白雪源，陈香美，等. 利用基因芯片探讨中药复方对MRL/lpr狼疮小鼠肾脏基因表达及Th1/Th2细胞的调节作用［J］. 中国中西医结合杂志，2003，23（3）：198-200.
LI Fei,BAI Xueyuan,CHEN Xiangmei,et al.Exploration on effect of chinese compound recipe on gene expression and regulation of Thl/Th2 cell ratio in kidney of autoimmune MRL/lpr mice by using gene chip［J］. Chinese Journal of Integrated Traditional and Western Medicine, 2003，23（3）：198-200.
［5］王文健，王轶宇. 全身性炎症反应与中西医结合防治［J］. 中国中西医结合杂志，2005，25（1）：68-71.
WANG Wenjian,WANG Yiyu.Systemic inflammatory reaction and its prevention and treatment with integrative Chinese and western medicine［J］.Chinese Journal of Integrated Traditional and Western Medicine, 2005，25（1）：68-71.
［6］Lin L M，William R P，Luis U. HMGB1 as a therapeutic target for infectious and inflammatory disorders［J］. Shock，2006，25（1）：4-11.
［7］罗成群，周建大，贺全勇，等. 中药合剂对特重度烧伤患者免疫功能的影响［J］. 中国中西医结合杂志，2002，22（8）：594-596.
LUO Chengqun，ZHOU Jianda，HE Quanyong，et al.Effect of Chinese drugs mixture on immune function of patients with extremely severe burn［J］.Chinese Journal of Integrated Traditional and Western Medicine,2002，22（8）：594-596.
［8］罗成群，周建大，陈道瑾，等. 中药合剂在大鼠烧伤炎症反应中的作用［J］.中南大学学报：医学版，2004，29（1）：32-34.
LUO Chengqun,ZHOU Jianda,CHEN Daojin,et al.Effect of Chinese traditional medicine mixture on inflammatory response in rats with severe burn［J］. Journal of Central South University.Medical Science, 2004，29（1）：32-34.
［9］Jiang W, Pisetsky D S. The role of INF-α and nitric oxide in the release of HMGB1 by RAW264.7 cells stimulated with polyinosinic-polycytidylic acid or lipopolysaccharide［J］. J Immunol, 2006，177（5）：3337-3343.
［10］Wang H，Bloom O，Zhang M，et al. HMG-1 as a late mediator of endotoxin lethality in mice［J］. Science，1999,285(5425):248-251.
［11］Rong Xi，Gong H，Gao Y，et al. A mutation in signal peptide of rat resistin gene inhibits differentiation of 3T3-L1 preadipocytes［J］. Acta Pharmacol Sin, 2004, 25(12): 1705-1711.
［12］Park J S, Arcaroli J, Yum H K, et al. Activation of gene expression in human neutrophils by high mobility group 1 protein［J］. Am J Physiol Cell Physiol, 2003，284（4）：870-879.
［13］Andersson U, Wang H C, Palmblad K, et al. High mobility group-1 protein (HMG-1)stimulates proinflammatory cytokine synthesis in human monocytes［J］. Exp Med, 2000, 192(4):565-570.
［14］Eaton T J， Gasson M J. Molecular screening of enterococcus virulence determinants and potential for genetic exchange between food and medical isolates［J］. Appl Environ Micro-biol，2001，67（4）：1628-1635.
［15］陈国千，邹荣良. 胞外高迁移率族蛋白B1的研究进展［J］. 国际检验医学杂志，2006，27（4）：344-346.
CHEN Guoqian,ZHOU Rongliang. Advances in the research of high mobility group box chromosomal protein B1［J］.International Journal of Laboratory Medicine, 2006，27（4）：344-346.
［16］王慧玲，董克礼. 益智健脑颗粒对快速老化小鼠SAMP8海马pin1和HMGB1mRNA表达的影响［J］. 中南大学学报: 医学版，2009，34（1）：63-66.
WANG Huiling,DONG Keli.Effect of yizhi jiannao granules on the expression of Pin1 and HMGB1 mRNA in the hippocampus of SAMP8 mice［J］. Journal of Central South University. Medical Science, 2009，34（1）：63-66.
［17］周建大，罗成群，贺全勇，等.中药合剂对大鼠严重烧伤后炎症反应的保护作用研究［J］.中国现代医学杂志，2004，14（4）:9-12.
Zhou Jianda，Luo Chengqun，He Quanyong，et al. Experiment study of protective effect of Chinese traditional medicine mixture on inflammatory response in mice with severe burn［J］.China Journal of Modern Medicine，2004，14（4）:9-12.
［18］Scaffidi P, Misteli T, Bianchi M. Release of chromatin protein HMGB1 by necrotic cells triggers inflammation［J］. Nature, 2002，418（6894）：191-195.

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