

Curcumin alleviates DSS-induced experimental colitis by **a** potential mechanism involving memory B cells and **the** Bcl-6-Syk-BLNK signal

Si-yi Wei, Tian-tian Wu, Jia-qi Huang, Zeng-ping Kang, Meng-xue Wang, You-bao Zhong, Wei Ge, Bu-gao Zhou, Hai-mei Zhao, Hai-yan Wang, Duan-yong Liu.

Correspondence to:

Duan-Yong Liu, Professor, Jiangxi University of Chinese , 1688 Meiling Road, Nanchang 330004, Jiangxi Province, China.

E-mail: liuduanyong@163.com

Telephone: +86-791-83769126

Fax: +86-791-83769126

Haiyan Wang, Associate Professor, Jiangxi University of Chinese Medicine, 1688 Meiling Road, Nanchang 330004, Jiangxi Province, China.

E-mail: 378278287@qq.com

Telephone: +86-0791-79118923

Fax: +86-0791-79118923



江西中醫藥大學

Jiangxi University of Traditional Chinese Medicine

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1 What did this study explore?

This study explored that Curcumin (Cur) alleviates DSS-induced experimental colitis by a potential mechanism involving memory B cells and the Bcl-6-Syk-BLNK signal.

2 How did the authors perform all experiments?

WEI SY and WU TT contributed equally to this work as co-first authors. HUANG JQ, ZHONG YB, KANG ZP, WANG MX, ZHOU BG, ZHAO HM and GE W performed the experiments. LIU DY and WANG HY contributed reagents/ materials/ analytical tools; LIU DY and ZHONG YB analyzed the data. WEI SY, WU TT and LIU DY wrote the paper, LIU DY and WANG HY conceived and designed the experiments.

3 How did the authors process all experimental data?

Data were expressed as mean \pm standard error of mean (SEM). The statistical significance was evaluated by analysis of variance (ANOVA) followed by the Tukey test for multiple comparisons by Prism 5.0 (GraphPad Software, La Jolla, CA, USA). Nonparametric data were analyzed with Mann-Whitney U test. *P* values < 0.05 were considered statistically significant.

4 How did the authors deal with the pre-study hypothesis?

电话:0791-87118800 传真:0791-87118800

地址:江西南昌兴湾大道818号 邮编:330004 <http://www.jxutcm.edu.cn>

Dextran sulphate sodium (DSS) was used to induce animal colitis. Mice with colitis were given Cur orally (100mg/kg/d) for 14 consecutive days. The therapeutic effect was evaluated by colonic weight, weight index of the colon, colonic length, and macroscopic and histological scores. The levels of memory B cells in mice peripheral blood were measured by flow cytometry, and cytokines in colonic tissue homogenates were analyzed using enzyme-linked immunosorbent assay (ELISA). The expression of Bcl-6, BLNK and Syk were measured by Western blot.

5 What are the novel findings of this study?

The present study is shown that Cur effectively alleviates DSS induced ulcerative colitis in mice by a potential mechanism involving memory B cells and the Bcl-6-Syk-BLNK signaling pathway.