*Latin American Journal of Pharmacy*
(formerly *Acta Farmacéutica Bonaerense)*
*Lat. Am. J. Pharm.* **36** (2): 217-23 (2017)

Regular article
Received: July 25, 2016
Revised version: October 7, 2016
Accepted: October 8, 2016

# The Attenuation of Schisandrin B on 2,4,6-trinitrobenzene Sulfonic Acid-Induced Ulcerative Colitis *in Vivo*

Xiang-An ZHANG [1] *, Shuang-Xi ZHANG [1], Yong-Kang AN [1], & Qing YIN [2]

[1] *Anorectal Disease Center, The First Affiliated Hospital, Henan College of TCM, Zhengzhou 450000, China*
[2] *Department of Hematological Malignancy, The Affiliated Hospital, Henan TCM Research Academy, Zhengzhou 450000, China*

***SUMMARY*. As a main compound isolated from *Schisandra chinensis* (Turcz.) Baill., a traditional Chinese herb medicine that is widely used in clinical health care, schisandrin B (EB) is a natural lignan that has anti-inflammatory, anti-cancer, and anti-viral effects. The present study investigated the role of EB on ulcerative colitis (UC) in a 2,4,6-trinitrobenzene sulfonic acid (TNBS)-induced rat colitis model. Rats administered EB showed less weight loss than the TNBS-treated group. Interleukin (IL)-6, IL-1β, and tumor necrosis factor-alpha were decreased by EB treatment. The treatment with EB significantly increased the activity of catalase, glutathione peroxidase, superoxide dismutase, and reduced peroxidation malondialdehyde levels in TNBS-induced UC rats. Furthermore, EB significantly decreased disease activity index and reversed the increased myeloperoxidase activity. EB regulated the phosphorylation of transcription factors including nuclear factor-kappa B (NF-κB) and IκB alpha. EB thus showed beneficial effects in a rat model of colitis, implicating EB might be a useful herb-derived medicine in the treatment of ulcerative colitis.**

*RESUMEN*. Esquisandrina B es el principal compuesto aislado de *Schisandra chinensis* (Turcz.) Baill., una medicina tradicional china ampliamente utilizada; la esquisandrina B (EB) es un lignano natural que tiene propiedades anti-inflamatorias, anti-cáncer y anti-virales. El presente estudio investigó el papel de EB en la colitis ulcerosa (UC) en un modelo de colitis en ratas inducida por ácido 2,4,6-trinitrobencensulfónico (TNBS). Las ratas administradas con EB mostraron menos pérdida de peso que el grupo tratado con TNBS. Las interleucinas (IL)-6, IL-1β y el factor de necrosis tumoral alfa se redujeron mediante tratamiento con EB. El tratamiento con EB aumentó significativamente la actividad de la catalasa, glutatión peroxidasa y superóxido dismutasa y redujo los niveles de peroxidación de malondialdehído en ratas con UC inducida por TNBS. Por otra parte, EB disminuyó significativamente el índice de actividad de la enfermedad y revirtió el aumento de la actividad de la mieloperoxidasa. La EB regula la fosforilación de factores de transcripción que incluyen el factor nuclear kappa B (NF-κB) y el alfa IκB. De modo que EB mostró efectos beneficiosos en un modelo de colitis en ratas, por lo que podría ser una medicina útil en el tratamiento de la colitis ulcerosa.

*KEY WORDS:* schisandrin B; ulcerative colitis; 2,4,6-trinitrobenzene sulfonic acid; anti-inflammation.

* Author to whom correspondence should be addressed. *E-mail:* xianganzhang66@sina.com

ISSN 0326 2383 (printed ed.)
ISSN 2362-3853 (on line ed.)