

## Chinese Skullcap (*Scutellaria baicalensis*) inhibits inflammation and proliferation on benign prostatic hyperplasia in rats

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Benign prostatic hyperplasia (BPH), which is the most common disorder in elderly men, involves androgenic hormone imbalance with chronic inflammation that causes imbalance between cell apoptosis and cell proliferation. As the root cause of the BPH remains unclear and synthetic drugs for treatment of BPH have undesirable side effects, the development of effective alternative medicines has been considered.

Chinese Skullcap has been considered natural remedy to treat pyrexia, micturition disorder and inflammation. Although skullcap has effective properties on various diseases, the effects and molecular mechanism of Skullcap on BPH are not fully understood. Therefore, in this study, we evaluated the efficacy of Chinese Skullcap root extract (SRE) in testosterone-induced BPH rats. Compared with the untreated group, the SRE treatment group suppressed pathological alterations, such as prostate growth and increase in serum dihydrotestosterone and 5 $\alpha$ -reductase levels. Furthermore, SRE significantly decreased the expression of androgen receptor and proliferating cell nuclear antigen. SRE also restored Bax/Bcl-2 balance. These effect of SRE was more prevalent than commercial 5 $\alpha$ -reductase inhibitor, finasteride. Taken together, we propose that SRE suppresses abnormal androgen events in prostate tissue and inhibits the development of BPH by targeting inflammation- and apoptosis-related markers. These finding strengthens that SRE could be used as plant-based 5 $\alpha$ -reductase inhibitory alternative.

Key words: 5 $\alpha$ -reductase inhibitor, benign prostate hyperplasia (BPH), proliferation, chines skullcap (*Scutellaria baicalensis*), testosterone-induced rat model

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