

UP446, analgesic and anti-inflammatory botanical composition

Mesfin Yimam, Lidia Brownell, Mandee Pantier, Qi Jia

Unigen Inc., Seattle, Washington, USA

ABSTRACT

Background Rheumatoid arthritis (RA) is a chronic systemic inflammatory autoimmune disease. Long-term use of currently available therapies for RA produces adverse effects that limit dosage and duration; hence there is a need for safe and effective alternatives suitable for long term chronic use. UP446, a composition consisting primarily of baicalin from *Scutellaria baicalensis* Georgi (Family: Lamiaceae) and (+)-catechin from the heartwoods of *Acacia catechu* (Family: Mimosaceae), has been previously shown to reduce production of eicosanoids and leukotrienes through dual inhibition of cyclooxygenase (COX) and lipoxygenase (LOX) enzymes and to decreased mRNA and protein levels of the proinflammatory cytokines, interleukin (IL)-1b, IL-6, and tumor necrosis factor (TNF)-a. Aim To evaluate the likelihood of UP446 in moderating arthritis and its associated symptoms in an experimental animal model of RA. Materials and Methods A RA rat model was induced by injecting Freund's complete adjuvant into left and right hind paw and base of the tail. Animals were administered UP446 (50 mg/kg), ibuprofen (150 mg/kg mg/kg) or vehicle by oral gavage 30 min prior to arthritis induction and each day thereafter for 14 days. Result Animals treated with UP446 showed 23.7, 31.9, 33.4, 29.3, and 33.1% reduction in pain sensitivity; 46.0, 36.7, 33.7, 34.8, and 33.4% reduction in ankle diameter on days 3, 5, 7, 9, and 13; respectively; compared to vehicle. Similarly paw edema was significantly reduced with an average of 30% for the first inflammatory reaction period (day 1-8) followed by 37.1 and 33.6% reduction on day 9 and 13. Conclusion These data indicate potential benefit of UP446 in alleviating symptoms of RA and support human clinical evaluation of this botanical composition in patients with RA.

KEYWORDS

Acacia catechu . inflammation . pain . rheumatoid arthritis . *Scutellaria baicalensis* Georgi

REFERENCES