Epimedium brevicornum Maxim.

None

Epimedium brevicornum Maxim. is a genus of flowering plants endemic native to China. Its bioactive component, icariin, is a flavonoid glycoside demonstrating various antioxidant and anti-inflammatory benefits[1]. Numerous in vitro cell culture studies showed that icariin has the potential to suppress inflammatory pathways involved in OA (Osteoarthritis)[2-7]. In rodent OA models, joint injection of icariin for 32 and 84 days was found to protect the articular cartilage from degeneration[4][8]. One randomized, placebo-controlled study reported pain reduction and functionality improvement in knee OA patients ≥ 40 years old after a 6-month supplementation of Xianlinggubao (3 g/day), a traditional herbal formula containing 70 wt% Epimedium extract (2.1 g/day)[9]. The same study also demonstrated that the supplementation is both safe and well tolerated in knee OA patients[9].

Dioscorea nipponica Makino

None

Dioscorea nipponica Makino is a genus of flowering plants commonly used in traditional Chinese medicine, mainly for treating bone-related conditions, such as OA (Osteoarthritis)[10]. Dioscorea extract contains two major bioactive compounds, diosgenin and dioscin, both of which are found to have a protective role against systemic inflammation in vitro[11][12]. Numerous pre-clinical studies have also demonstrated the anti-inflammatory and analgesic properties of Dioscorea extract in rodent models with induced arthritis[10]. Furthermore, two human studies indicated that Dioscorea extract is an effective treatment for knee OA by orally given decoction and external application.

Salvia miltiorrhiza Bunge.

None

Salvia miltiorrhiza Bunge. is sustainably cultivated from a special ecosystem in Shandong Province, China. Tanshinones, the main bioactive components isolated from S.miltiorrhiza extract, can significantly inhibit expression of pro-inflammatory cytokines in vitro[13]. In rabbit models of OA, supplementation of S. miltiorrhiza extract attenuated cartilage injury by lowering oxidative stress[14] and reducing chondrocyte apoptosis via regulation of various signaling pathways[15][16].

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