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ABSTRACT

Ethnopharmacological relevance: *Epimedium sagittatum brevicornum* Maxim. is an important traditional Chinese herb that has long been used to promote bone fracture healing and treat osteoporosis.

Aim of the study: Achieving peak bone mass by adolescence has now been accepted to be fundamental for preventing osteoporosis in adulthood life. This study investigated the possibility of increasing peak bone mass in young rats using the total flavonoid extract of *Epimedium* herb (TFE).

Materials and methods: TFE was intragastrically administered to one-month-old Wistar rats at a low (100mg/kg), middle (200mg/kg) or high dose (400mg/kg). Whole body bone mineral density (BMD) was measured by dual-energy x-ray absorptiometry every two weeks. When BMD of any one of TFE groups was found to be significantly higher than that of the control, all rats were sacrificed, serum samples were collected for bone turnover biochemical assays, and femurs, tibiae and vertebrae were isolated and used in BMD, mechanical, micro-structural, histomorphometric and mechanistic studies.