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Hui-Rong Xi ^{a, b}, Hui-Ping Ma ^{a, c, *}, Fang-Fang Yang ^b, Yu-Hai Gao ^b, Jian Zhou ^b, Yuan-Yuan Wang ^b, Wen-Yuan Li ^b, Cory J Xian ^d, Ke-Ming Chen ^{b, *}

^a School of Pharmacy, Ningxia Medical University, Yinchuan 750004, PR China

^b Institute of Orthopaedics, Lanzhou General Hospital of CPLA, Lanzhou 730050, PR China

^c Department of Pharmacy, Lanzhou General Hospital of CPLA, Lanzhou 730050, PR China

^d Sansom Institute for Health Research, School of Pharmacy and Medical Sciences, University of South Australia, Adelaide, SA 5001, Australia

mahuipingcxr@aliyun.com (Hui-Ping Ma),

chenkm@lut.cn (Ke-Ming Chen)

***Corresponding authors:**

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.

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