

**【P3-7】****The effects of soybean hypocotyl extracts on bone and lipid metabolism, and tyrosinase activity**

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The extract was obtained by soaking soybean hypocotyl in 80% ethanol at 80°C for 1 hr. The extract contained 8.3 % of soy isoflavones and 26.2 % of soy saponins. It was evaluated that the effect of the extract on bone and lipid metabolism in vivo animal study, and tyrosinase activity in vitro system. The reducing activity of the extract on postmenopausal symptoms was evaluated using ovariectomized (OVX) rat model. Twenty-four 12-week-old Sprague-Dawley rats were divided randomly into 4 groups and given controlled diets for 16 weeks. The treatment groups were as followed: sham operated, ovariectomized (OVX) control, OVX + soybean hypocotyl extract (6.25 g/kg), and OVX + 17 $\beta$ -estradiol (4 mg/kg). OVX treatments reduced femoral and fourth lumbar vertebral bone density and mineral content ( $p < 0.01$ ), decreased uterine weight ( $p < 0.01$ ), accelerated body weight increases ( $p < 0.05$ ). Supplementation with the extract prevented the losses of bone density and mineral content caused by OVX ( $p < 0.01$ ). Feeding extract also significantly decrease the abdominal body fat content, and serum triglyceride and serum total cholesterol concentrations of rats ( $p < 0.05$ ). We concluded that dietary supplementation with soybean hypocotyl extract (27.8  $\pm$  2.7 mg/kg/day) can prevent postmenopausal bone loss and reduce body fat and serum lipid in OVX rats. The mushroom tyrosinase (EC 1.14.18.1), related formation of melanin pigment on skin cell, inhibitory activity of soy hypocotyl extract was measured and evaluated by IC<sub>50</sub> value. The IC<sub>50</sub> value of the extract was 5.96 mg/ml. (TDPAF 203022-3)