

Schisandrols A and B, schisantherin A, schisandrins A and B were detected in Schizandra oil extract by HPTLC (fig. 1A). These lignans are considered to be the main active substances of *Schizandra chinensis*. Lignans antioxidant activity plays a significant role in pharmacological activity of Schizandra drugs (3). We established that these lignans don't have FRSA by DPPH. They don't bleach background of the plate after DPPH solution derivatization (fig. 1B). FRSA of Schizandra oil extract depend on other components of the extract, but not lignans.

Thus, Schizandra oil extract is a source not only of the well-known lignans, but of other active compounds with the FRSA. The FRSA of these substances causes of their pharmacological importance.

**References:** (1) MA Gyamfi, M Yonamine, Y Aniya (1999). *Gen Pharmacol.*, 32: 661–667. (2) ON Pozharitskaya, SA Ivanova, AN Shikov, VG Makarov (2007). *J Sep Sci.*, 30: 1250–1254. (3) A Panossian, G Wikman (2008). *J. Ethnopharmacology*, 118: 183–212.

## POTENTIAL OF *PUERARIA CANDOLLEI* VAR. *MIRIFICA* AND MIROESTROL ON ANTIOXIDANT ENZYMES IN UTERI OF OVARECTOMIZED MICE

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*Pueraria candollei* Wall. ex Benth. var. *mirifica* (PM; family Leguminosae) has long been used in Thai traditional medicine for rejuvenation. Reactive oxygen species lead to cellular damage when rate of generation exceeds rate of decomposition by antioxidant defense systems, *i. e.*, glutathione peroxidase (GPx), catalase (CAT), superoxide dismutase (SOD), and reduced glutathione (GSH). The present study aims to evaluate potential of PM and its strong phytoestrogen miroestrol (MR) on antioxidant enzymes in uteri of ovariectomized (OVX) mice. Adult OVX ICR mice were daily given estradiol benzoate (E2), the PM crude extract, or MR, for 2 m. The uteri were collected at 24 h after the last treatment to measure the levels of antioxidant species (1, 2). OVX lowered the levels of GPx, CAT, SOD, and GSH in the uteri. Though E2 did not improve antioxidant enzymes to the normal levels, it extensively elevated the ratio of

GSSG/GSH in the OVX uteri. PM and MR significantly recovered the levels of GPx, CAT, and SOD in the OVX with increasing the ratio of GSSG/GSH to the levels comparable to the normal levels. These observations revealed, for the first time, antioxidant potentials of PM and MR via increasing the levels of antioxidant related enzymes and GSH species, resulted in improving antioxidant defense status.

**References:** (1) Ozmen, B., Ozmen, D., Erkin, E., Guner, I., Habif, S., Bayındır, O., 2002. Lens superoxide dismutase and catalase activities in diabetic cataract. *Clin. Biochem.* 35: 69–82. (2) Pinto, R. E., Bartley, W., 1969. The effect of age and sex on glutathione reductase and glutathione peroxidase activities and on aerobic glutathione oxidation in rat liver homogenates. *Biochem. J.* 112: 109–115.