

6 EFFECT OF FRESH LILY AND RHUBARB POWDER ON CHRONIC STRESS DEPRESSION IN RATS

Yan Li, Tan Wang, Peng Xi, Mingsan Miao*. *Department of Pharmacology, Henan University of Traditional Chinese Medicine, Zhengzhou, China*

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Objectives To examine the effect of fresh lily and rhubarb powder on chronic stress depression on rats.

Methods A chronic unpredictable mild stress rat model of depression was established. Body mass, sugar consumption and open-field behavior were measured to assess the effect of fresh lily and rhubarb powder on rat behavior. Plasma MDA levels and erythrocyte SOD activity were measured using a kit, the fluorescence of brain tissue homogenates was measured to determine the 5-HT, NE and DA content of amine neurotransmitters, and the thymus and spleen were also examined for any changes.

Results In the rat chronic stress depression model, rats administered large and small doses of fresh lily and rhubarb powder over 3 weeks significantly increased their body weight ($p < 0.05$), while rats administered large, medium and small doses of fresh lily and rhubarb powder significantly increased their consumption of sucrose ($p < 0.05$). There was also a trend towards reduced plasma levels of MDA ($p < 0.01$) and the 3 min vertical motion score was significantly increased ($p < 0.05$). Large doses of fresh lily and rhubarb powder significantly increased erythrocyte SOD activity ($p < 0.05$), while small doses of fresh lily and rhubarb powder significantly increased rat brain NE, 5-HT and DA levels ($p < 0.01$) and significantly increased the rat 3 min horizontal motion score ($p < 0.05$).

Conclusions Fresh lily and rhubarb powder exhibited a therapeutic effect on rats with depression.

7 ANTIOXIDATION FUNCTION EVALUATION OF BLACK RICE ANTHOCYANIN AND FORMULATION PROCESS OF BLACK RICE FILM TABLETS

¹Lu Chen, ^{1,2}Bo Gao*. ¹*School of Life Sciences, Jilin University, Changchun, China;* ²*Department of Chemistry and Pharmacy, Zhuhai College of Jilin University, Zhuhai, China*

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Objectives The objective of this investigation was to evaluate the antioxidant function of black rice anthocyanins and to prepare black rice anthocyanin film tablets.

Methods The DPPH radical scavenging test and FRAP method were used to evaluate antioxidant function. Trolox and ascorbic acid were used as control. A wet granulation process was used to prepare the film tablets. The effect of excipients on black rice anthocyanin content, including starch, dextrin, tartaric acid and magnesium stearate, was investigated. Based on orthogonal testing, three factors, namely the ratio of excipient to main drug (w/w), the ratio of starch to dextrin (w/w), and the percentage of magnesium stearate, were used to investigate the amount of excipient.

Results Black rice anthocyanins showed favorable antioxidant activity. The four excipients had no effects on black rice anthocyanin content. The best ratio of excipient to main drug (w/w) was 1.2:1, while that of starch to dextrin (w/w) was 2:3. The optimum amount of magnesium was 1%.

Conclusions We investigated the antioxidant activity of black rice anthocyanin, and the effect of excipients on black rice anthocyanin content. We used orthogonal testing to investigate the

amount of excipient, and a wet granulation process to prepare black rice anthocyanin film tablets.

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8 THE EFFECT OF REPLENISHING KIDNEY YANG MEDICINE ON GYNECOLOGICAL DISEASES

Shuo Tian, Mingsan Miao*, Ming Bai, Liling Xiang, Xin Lou. *Department of Pharmacology, Henan University of Traditional Chinese Medicine, Zhengzhou, China*

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Objectives To study the effect of replenishing kidney yang medicine on the prevention and treatment of gynecological disease, and provide a reference for further clinical studies.

Methods A comprehensive literature search was conducted to determine the effect of replenishing kidney yang medicine on the prevention and treatment of gynecological diseases, in order to understand current research and development, and provide a reference for clinical treatment.

Results The study has found that most replenishing kidney yang medicine has an estrogenic effect, such as the traditional Chinese medicines Epimedium, Antler, Eucommia, Psoralea, Dodder, Cnidium, *Cistanche deserticola* and *Astragalus complanatus*, and traditional Chinese patent medicine such as Gulingji capsules, Erxian decoction, Bushen Huoxue prescription and Yougui pills. Replenishing kidney yang medicine is often used to treat female disease such as perimenopausal syndrome, polycystic ovary syndrome, uterine hypoplasia, kidney deficiency type of infrequent menstruation, breast hyperplasia, kidney deficiency caused by ovulation disorders, premature ovarian failure and perimenopausal osteoporosis, and has a good therapeutic effect.

Conclusions Replenishing kidney yang medicine has a good therapeutic effect for the treatment of gynecological diseases, but the mechanism of drug action as it relates to the etiology and pathogenesis of these diseases has not yet been clearly elucidated. Therefore we recommend in-depth scientific clinical observation to determine the effect of replenishing kidney yang medicine on gynecological diseases so that better treatment programs can be developed.

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9 STUDIES ON THE OPTIMIZATION OF SUBMERGED FERMENTATION MEDIUM AND CONDITIONS FOR TRICHOLOMA MATSUTAKE

Yanzhen Wang, Yao Zhang, Liang Wang, Dongsheng Yang, Wenjun Wang, Lirong Teng*. *Department of Chemistry and Pharmacy, Zhuhai College of Jilin University, Zhuhai, China*

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Background *Tricholoma matsutake*, a popular food and biopharmaceutical in Asia, displays various pharmacological activities. Submerged fermentation is an efficient way to produce mycelia and bioactive metabolites. Consequently, research groups are working to optimize submerged fermentation conditions. This