CURRENT TOPICS IN NUTRACEUTICAL RESEARCH

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REVIEW

RESEARCH ARTICLE

Current Topics in Nutraceutical Research 12 (3): 69-74

ABSTRACT: ***Cinnamon, a well-known spice comprising the types Ceylon cinnamon and cassia cinnamon has attracted much attention regarding its anti-diabetic potentials. It has been demonstrated that cinnamon's extract has enhanced GLUT4 contents in cytoplasmic membrane, where it facilitates glucose entrance into the cell, a process implicating AMPK pathway. We conclude that cinnamon possess anti-diabetic properties, the effects of which, differ by population. Studies must be conducted to further determine how specific variables, such as diet, ethnicity, BMI, glucose levels, cinnamon dose, and concurrent medication, affect cinnamon responsiveness, regarding diabetes mellitus and its complications.***

Current Topics in Nutraceutical Research 12 (3): 75-84

ABSTRACT: ***Curcumin, a yellow substance derived from the Rhizoma Curcumea Longae, is the main constituent of the spice turmeric. It is a lipophylic polyphenol, a bis-a ,b-unsaturated b-diphenone with the chemical formula C21H20O6 and chemical name of (E,E)-1,7-bis(4-hydroxy-3-methoxyphenyl)-1,6-heptadiene-3,5 dione). There are numerous studies documenting curcumin's anti-inflammatory and anti-diabetic properties, among which the inhibition of inflammatory cytokines, such as MCP and TNF-a along with the induction of AMPK through inhibition of MAPK play a pivotal role in its mechanisms of action. In this review, the anti-diabetic properties of curcumin and its potential beneficial effects in the prevention and treatment of diabetes mellitus will be discussed.***

Current Topics in Nutraceutical Research 12 (3): 85-90

ABSTRACT: ***Ginkgolic acid (GA) was obtained from Ginkgo bilobal peel by means of ethanol and macroporous resin purifying process. The static adsorption and desorption experiments were performed. A kind of suitable macroporous resin was selected from D101, D1300, AB-8 and DA201 resin. The dynamic adsorption and desorption experiments were also performed to analyze the influence of the concentration and flow velocity of the crude extraction solution on adsorption. Moreover, the influence of the flow velocity and concentration of the eluent on desorption were also analyzed, to optimize the parameters of purifying process of GA by macroporous resin. Results showed that D101 resin had much higher static adsorption and desorption ratio, which was a suitable resin for purifying GA. Results of the dynamic adsorption and the desorption experiments showed that the high concentration and the low flow velocity of the crude solution sample were benefit for the process of adsorption. 100% ethanol was used as the eluent and the reasonable amount of eluent was 10 times the volume of the resin column (BV). The flow velocity of the solution sample and the eluent was 1.0ml/min. By optimizing the macro-porous resin purification method, the purity of GA attained 80.79% which was extracted and purified from the Ginkgo bilobal peel.***

Current Topics in Nutraceutical Research 12 (3): 91-100

ABSTRACT: ***This study was designed to examine the effect of Burdock root tea on clinical signs and symptoms in patients with knee osteoarthritis (OA). Thirty-six patients (10 men and 26 women) aged 50-70 year-old with knee osteoarthritis referred to the physical medicine and rehabilitation department of the Tabriz University of Medical sciences Hospitals in 2013, were selected for the study and divided into two groups randomly. For all individuals along the 42 days of study period, the same drug treatments were considered. The intervention group received daily 3 cups of Burdock root tea (each cups contain 2gr/150 cc boiled water) half-hour after the meal. Control group received 3 cups contain 150 cc boiled water daily. The Knee Injury and Osteoarthritis Outcome Score (KOOS) Questionnaire, Timed Up and Go (TUG) and Visual Analog Scale (VAS) tests were used for clinical assessments. There was significant difference in pain intensity (P<0.001), scores of the KOOS Questionnaire (P=0.020) and TUG (P = 0.027) between the two groups after treatment. Significant reduction in pain intensity (p<0.001), significant decrease in the mean score of TUG (P< 0.001) and significant increase in the mean score of KOOS Questionnaire (P< 0.001) was noted in Burdock root tea group.***

Current Topics in Nutraceutical Research 12 (3): 101-106

155-160 **INFLUENCE OF BUCKWHEAT EXTRACT ON VARIOUS DIETARY LIPID-INDUCED OXIDATIVE STATUS OF THE MICE BRAIN**

Seung-Jae Lee, Seung Yuan Lee, Young-Chan Kim, Inwook Choi and Sun Jin Hur

ABSTRACT: ***This study was conducted to investigate the effects of various dietary lipids with buckwheat extract on the antioxidant activity of lipids in the mouse brain. Forty female mice were fed a diet containing 20% soybean oil, olive oil and fish oil with 1% buckwheat extract for 5 weeks. The main phenolics of buckwheat extract were rutin, quercitrin and quercetin. The fatty acid composition of the mouse brain lipids was largely influenced by dietary lipids, and polyunsaturated fatty acids (PUFAs) were increased by dietary fish oil. The antioxidant activities were increased by the dietary buckwheat extract and were higher in the fish oil dietary group than in the other dietary groups. The inhibitory effect of lipid oxidation in the mouse brain lipids was also the highest in the fish oil dietary group.***

Current Topics in Nutraceutical Research 12 (3): 107-114

161-166 **PERIPHERAL LEPTIN ADMINISTRATION COULD NOT CHANGE INFLAMMATORY MARKERS IN ENERGY RESTRICTED RATS**

Mohammad Javad Hosseinzadeh-Attar, Elham Alipoor, Mona Pourghaderi, Mahmoud Djalali, Fatemeh Nabavizadeh and Mohammad Reza Eshraghian

ABSTRACT: ***Chronic inflammation involves in aging through increasing the production of cytokines and adipocytokines. Leptin is a major adipokine which studies supported its initiator role of inflammation in vitro, in the local environment of adipose tissue and systemically. Energy restriction (ER) as an anti-aging proven method modifies adipose derived proinflammatory mediators like TNF-α and IL-6. In this study it was hypothesized that whether leptin administration after chronic ER could negate the beneficial effects of ER on inflammatory markers or not. Two groups of male Wistar rats randomly divided to receive 40% ER or ad libitum food intake (AL) for 11 weeks. Then each group was divided randomly to receive 0.05mg/kg/d intravenous leptin or saline for 3 days. After ER phase, IL-6 serum levels were lower and marginally significant in ER compare to AL group (34.83±15.22ng/mL vs. 58.19±21.61 ng/mL). After leptin treatment, no statistically significant differences were observed in IL-6 and TNF-α serum levels. But IL-6 levels were significantly lower in ER groups irrespective of injection type (P=0.011), which may show the prevail effect of ER on inflammation. In conclusion this study demonstrated for the first time that peripheral leptin administration following chronic ER could not induce inflammatory markers in animal model.***