

P-23 Effects of calcium alginate on lowering cholesterol in rats. Takanori Yasutake¹, Yoko Idota², Yumi Kogure², Takako Kato², Kentaro Yano², Hiroshi Arakawa², Chihaya Kakinuma², Chihiro Miyajima¹, Fumiyoshi Kasahara¹, Shoko Kobayashi³, Takuo Ogihara². 1)KIMICA corporation. 2)Faculty of Pharmacy., Takasaki Univ. of Health and Welfare. 3)Grad. Sch. Agric. and Life Sci., Univ. of Tokyo.

[Purpose] In this study we examined the effect of calcium alginate (Ca-Alg) on the reduction of internal cholesterol and the excretion promotion of bile acid. **[Method]** A was given to rats for two weeks. After 7d and 14d, plasma concentration of cholesterol was measured. After 14d portal plasma concentration of bile acid was measured. In addition, the amount of bile acid in feces collected in the last 24 hours during the feeding period was measured. Moreover, weight gain, food intake, and biological parameters were measured. **[Result and Discussion]** Plasma concentration of cholesterol was significantly reduced in rats fed the 2% Ca-Alg containing diet. Amounts of bile acid in feces tended to increase depending on the amount of Ca-Alg contained in the diet. It was suggested that Ca-Alg promoted the excretion of cholesterol because of increased excretion of bile acid into the feces. In conclusion, Ca-Alg promoted excretion of cholesterol and bile acid in rats. We are going to study the effect of Ca-Alg on humans in the future.

P-24 Immunosuppressive effect of essential oil from an aboriginal herb on dendritic cell and contact hypersensitivity responses. Ming-Kuem Lin¹, Meng-Shiou Lee¹, Wen-Te Chang¹, Hsiu-Chun Chen². ¹Department of Chinese Pharmaceutical Sciences and Chinese Medicine Resources, China Medical University, Taichung, Taiwan. ²Department of Cosmeceutics, China Medical University, Taichung, Taiwan.

Litsea cubeba, also named as Makaury, is a traditional herb and has been used as cooking condiment or tea brewing to treat diseases for aborigines. In this study, *Litsea cubeba* essential oil (LCEO) was extracted by steam distillation and its components were analyzed by GC-MS with or without a combination with solid-phase microextraction. The main components in LCEO were determined as *Z*-citral and *E*-citral. In addition, an immunosuppressive activity of LCEO was also investigated. Bone marrow-derived dendritic cells (DCs) are a critical role for the connection of innate and adaptive immunity. The effects of LCEO on DC activation and contact hypersensitivity responses in mice were examined. Our results clearly showed that LCEO decreased the production of TNF- α and IL-12 in a dose-dependent manner in LPS-induced DCs. The contact hypersensitivity responses were inhibited in mice cosensitized with LCEO. Therefore, we demonstrate for the first time that the LCEO mainly containing *Z*-citral and *E*-citral exhibit immunosuppressive effects on DC activation and contact hypersensitivity responses. Moreover, these findings indicate that LCEO can potentially be applied in the treatment of chronic inflammatory and autoimmune diseases.