

또한 골교체질의 지표인 osteocalcin은 서목태와 레반을 섭취한 군에서 유의적으로 낮게 나타남으로써 서목태의 골대사 효과에 프럭토스 폴리머인 레반의 칼슘 흡수성 효과가 상승효과를 가져온 것으로 본다. 이는 서목태와 프럭토스 폴리머인 레반이 새로운 폐경기 골다공증 예방용 특수 영양식품 개발에 이바지 할 수 있으리라 기대한다.

#### **【P4-8】**

### **Effects of PTP1B Inhibitors and Taurine on Blood Lipid Profiles in Adolescents Obesity Model Rats**

Sun Hee Cheong<sup>†</sup> · Hyeongjin Cho<sup>1)</sup> · Kyung Ja Chang

*Department of Food and Nutrition, College of Human Ecology, Inha University, Incheon, Korea*

*Department of Chemistry, Inha University, Incheon, Korea<sup>1)</sup>*

The protein, called PTP1B (protein tyrosine phosphatase 1B), joins a list of enzymes that mice are associated with obesity. The purpose of this study was to investigate the effects of PTP1B inhibitors and taurine on blood lipid profiles in adolescents obesity model rats. Three week-old thirty-six male Sprague-Dawley rats were randomly assigned to six groups (high fat diet group; HFD group, high fat diet + taurine group; HF + TR group, high fat diet+PTP1B inhibitor A group; HF + A group, high fat diet+PTP1B inhibitor B; HF+B group, high fat diet+PTP1B inhibitor A+taurine group; HF + A + TR group, high fat diet + PTP1B inhibitor B+taurine group; HF + B + TR group). The PTP1B inhibitor A dissolved with 1M NaOH and B dissolved with distilled water were given orally were administered 0.165 mg per 100 g diet. After 8 weeks of feeding these experimental diets, the rats were sacrificed. Liver, epididymis adipose tissue, gastricnemus and psoas weight were measured. Plasma triglyceride, total cholesterol and HDL-cholesterol concentration were analyzed by enzymatic procedures using commercial kits with UV/Vis spectrophotometer at 546 nm, 500 nm and 500 nm, respectively. The statistical analysis was conducted using the SPSS 10.0 program. Mean and standard deviation were calculated for all variables and analyzed by analysis of one-way ANOVA. Relative liver weight of HF + A, HF + A + TR and HF + B + TR groups were significantly lower than the HFD group ( $p < 0.05$ ). Gastricnemus and psoas muscle weight in HF + A and HF + B + TR groups were significantly higher than the rest groups ( $p < 0.05$ ,  $p < 0.05$ , respectively). Plasma triglyceride (TG) level in HF + A + TR and HF + B + TR groups were significantly lower than the rest groups ( $p < 0.05$ ). Especially, plasma TC level in HF + A + TR group was the lowest compared to the rest groups. On the other hand, plasma HDL-cholesterol level and the ratio of HDL-cholesterol to total cholesterol in HF + B + TR group was significantly lower than HFD and HF + TR groups ( $p < 0.05$ ). Plasma LDL-cholesterol level and the ratio of LDL-cholesterol to HDL-cholesterol in HFD group were significantly higher than the rest groups ( $p < 0.05$ ). Therefore, these results may suggest a possible blood triglyceride, total cholesterol, LDL-cholesterol lowering effect of PTP1B inhibitors and taurine in adolescents obesity model rats.

#### **【P4-9】**

### **Effects of Garlic, Soy Protein and Taurine on Blood Lipid Profiles in Postmenopausal Hyperlipidemic Model Rats**

Sun Hee Cheong<sup>†</sup> · Kyung Ja Chang

*Department of Food and Nutrition, College of Human Ecology, Inha University, Incheon, Korea*

The purpose of this study was to investigate the effects of garlic, soy protein and taurine on blood lipid profiles in postmenopausal hyperlipidemic model rats. Seventy-two female Sprague-Dawley rats weighing 200g were fed a commercial diet for one week. All rats were ovariectomized and then were randomly assigned to eight groups (high fat diet group; HFD group, 2% garlic powder group; GP group, taurine group; TR group, soy protein group; SP group, 2% garlic powder + taurine group; GP + TR group, 2% garlic powder + soy protein group; GP + SP group, taurine + soy protein group; TR + SP group, 2% garlic powder + taurine + soy protein group; GP + TR + SP group). After 8 weeks of feeding these experimental diets, the rats were sacrificed. Liver, adipose tissue, gastricnemus and psoas weight were measured. Plasma triglyceride, total cholesterol and HDL-cholesterol concentration were analyzed by enzymatic procedures using commercial kits with UV/Vis spectro-