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The anti-obesity effect of *Pinus densiflora* Sieb. et Zucc. in miceCheolwoo Park, Woong Kim, Jaeyoung Park, Wonjin Kim and Hyeonsook Cheong  
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*Pinus densiflora* Sieb. et Zucc. (red pine) have various biological activities and widely distributed around East Asian countries, including Korea, Japan, China and southeastern Russia. Although *P. densiflora* has been used traditional medicines, scientific evidence of anti-obesity effect has not been reported. The aim of this study was to investigate whether pine needle extract powder (PNEP) decreased body weight and white fat mass in ICR mice. We designed 4 groups of animals and named them with respect to their weight as : normal diet (ND), high fat diet (HFD) and PNEP (300 mg/kg and 500 mg/kg). Their body weights were monitored twice weekly during the feeding period on 12 weeks. In comparison with HFD mice, PNEP (500 mg/kg) group showed significantly lower body weight gain (-23%), white fat mass gain (-71%). Also, blood analysis results that total lipid, cholesterol, free fatty acid, triglyceride and ALT were significantly decreased in the PNEP (500 mg/kg) group compared with that in the HFD group. We confirmed that PNEP were significantly decreased body fat, white fat mass and obesity blood factor through blood analysis in ICR mice. Therefore, PNEP can be considered for use in therapy to control body fat and to develop functional food.

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