

P-1

Increases in cell proliferation and apoptosis in dentate gyrus of anorexia (*anx/anx*) mice

Mi Ja Kim^{1,2*}, Youngok Kim¹, Kyung Hee Kim¹, Min Jung Kang³, Joo-Ho Chung² .
¹Department of Food and Nutrition, Dongduk Womens University, Seoul; ²Kohwang Medical Research Institute College of Medicine, Kyung Hee University, Seoul; ³Department of Anatomy, College of Medicine, Kyung Hee University, Seoul, Korea

The anorexia (*anx/anx*) mutation is a lethal genotype in mice with an autosomal recessive mode of inheritance. *anx/anx* mice present phenotypically with decreased food intake, weight loss, and neurological deficits. These animals also show premature death during the third or fourth week after birth. It was hypothesized in the present study that cell proliferation and apoptosis differ in pattern in *anx/anx* mice from those of the control mice. In order to investigate the changes in cell proliferation and apoptosis in the dentate gyrus of *anx/anx* mice, 5-bromo-2-deoxyuridine (BrdU) immuno-histochemistry and terminal deoxynucleotidyl transferase-mediated dUTP nick-end labeling (TUNEL) assay were performed in this study. *anx/anx* mice showed significantly higher numbers of both BrdU- and TUNEL-positive cells in the dentate gyrus than those of the control mice. These results indicate that increased cell proliferation and apoptosis take place in the dentate gyrus of *anx/anx* mice.