CDB SEMINAR

Francis Lee

Weill Medical College of Cornell University

Tuesday, July 25

16:00~17:00 C1F CDB Auditorium

Functional analysis of human genetic variant in BDNF (Val66Met)

Summary

A common single nucleotide polymorphism (SNP) in the brain-derived neurotrophic factor gene (Val66Met) is associated with alterations in brain anatomy and memory, but its relevance to clinical disorders is unclear. We have generated a transgenic variant BDNF mouse ($BDNF^{Met/Met}$) that reproduces the phenotypic hallmarks in humans with the variant allele. In this mouse, variant $BDNF_{Met}$ expression in brain is normal, but its secretion from neurons is defective. When placed in stressful settings, $BDNF^{Met/Met}$ mice also exhibit increased anxiety-related behaviors that are not normalized by the antidepressant, fluoxetine. These findings indicate that an allelic variant BDNF may play a role in the genetic predisposition in humans to anxiety and depressive disorders.

Host:
Hideki Enomoto
Neuronal Differentiation and Regeneration, CDB
enomoto@cdb.riken.jp
Tel:078-306-3100 (ext:1301)