

## 第13回 最先端脳科学セミナー

### Paternal aging decreases pups' mother calls in the mouse with acceleration by Pax6 haploinsufficiency: an example of transgenerational epigenetics

演者: Professor **Noriko Osumi**  
Division of Developmental Neuroscience,  
Core Center for Neuroscience,  
Tohoku University School of Medicine

日時: 2013年11月29日(金) 17:00~18:30

場所: 講義実習棟 1階 大講義室

#### 要旨

Autism is a highly variable brain development disorder and has a strong genetic basis. During these three decades, the incidence of autism steadily increasing in various developed countries. To gain insight into genetic and environmental (GxE) factors that affect onset of autism, we assessed ultrasonic vocalization (USV) of pups derived from male mice of wild-type or *Pax6* mutant at various ages. We found that paternal aging drastically decrease the number of pups' USV calls when isolated from their mother. As for a genetic risk, we used heterozygous *Pax6* mutant male mice. *Pax6* plays pivotal roles in many neurodevelopmental processes such as brain patterning, neurogenesis, motor neuron specification, and cerebellar development. The number of USV calls was unchanged between WT and *Sey* pups derived from young and old *Sey* male mice, whereas that of *Sey* pups derived from middle-aged father was significantly reduced. Therefore, *Pax6* haploinsufficiency accelerated USV defects in the mouse pups derived from the middle-aged male *Sey* mice. Or, paternal aging may exacerbate the risk for USV deficits due to a *Pax6* mutation. In my talk, I will further show more recent data of *Pax6* mutation x *in vitro* fertilization (IVF) as well as those of F2 pups.

大隅典子先生は、日本分子生物学会理事長としての激務の中、富山に来ていただきます。多数の皆様のご来聴をお待ちしております。

※ 本セミナーは、大学院生命融合科学教育部・生命高次適応科学特論の一環です。履修者は、[レポートの提出](#)が必要です。また、大学院の単位認定の対象となります。