



# CDB SEMINAR

## Hiroaki Matsunami

Molecular Genetics and Microbiology, Duke University

Wednesday, December 17, 2014

16:00~17:00 A7F Seminar Room

### **Mammalian odorant receptors: deorphanization, accessory proteins and receptor gene choice**

#### **Summary**

Trained dogs are often used in detecting explosives, illegal drugs and finding survivors after natural disasters. This ability depends on their olfactory system to detect and discriminate numerous chemicals at very low concentrations. In mammals, olfactory sensation starts with the detection of odor ligands by odorant receptors (ORs), a family of seven transmembrane G protein-coupled receptors (GPCRs). Mammalian genomes encode hundreds of ORs, which are individually expressed in the olfactory sensory neurons located in the olfactory epithelium.

Understanding how each olfactory sensory neuron chooses one type of ORs and how hundreds of ORs interacts with odorous chemicals is fundamental to decipher the coding of olfactory information. I will discuss recent progress in developing a high-throughput in vivo method to comprehensively identify OR repertoires responding to odorants, as well as OR accessory proteins that play a role in OR gene choice.

#### **Host:**

**Masatoshi Takeichi**

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