



# CDB SEMINAR

**Speaker:** Hiroaki Matsunami

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**Title:**

“Functional Expression of Odorant Receptors”

Date:	Monday, July 12
Time:	16:00 - 17:00
Place:	7th floor Conference Room of Building A, CDB

## Summary:

With the availability of complete repertoire of human and other mammalian odorant receptor (OR) sequences, one of the next goals in olfactory research would be an analysis of chemical selectivity of all these ORs. However, little is known about how different odorant molecules interact with different ORs. Especially, in humans only a couple of ORs out of 350 potentially functional ORs have their cognate ligands identified. This is largely because it has been difficult to express functional ORs on the cell surface of heterologous cells and measure their ligand-binding specificity.

We have identified a novel set of transmembrane proteins promoting functional cell surface expression of ORs expressed in HEK293T cells. Genes encoding these proteins are expressed specifically in olfactory neurons. These proteins are associated with OR proteins, and dramatically enhance the sensitivity to odorants. These findings suggest that the accessory proteins play significant roles in the translocation of ORs from the ER to the plasma membrane as well as in the functioning of ORs. Using this approach we have identified a number of ORs responding to odorants and have provided a platform for screening the chemical selectivity of the large OR family.

Host: **Masatoshi Takeichi** Cell Adhesion/Tissue Patterning ,CDB  
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