

# 嗅覚系におけるcyclicADPリボースによるニオイ情報伝達機構の解明

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# 2002 Fiscal Year Final Research Report Summary

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## Study of the cyclic ADP-ribose signal system in the olfactory pathway

Research Project

### Project/Area Number

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13671773

### Research Category

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Grant-in-Aid for Scientific Research (C)

### Allocation Type

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Single-year Grants

### Section

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一般

### Research Field

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Otorhinolaryngology

### Research Institution

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Kanazawa University

### Principal Investigator

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### Project Period (FY)

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2001 – 2002

### Keywords

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cyclic ADP-ribose / Olfactory pathway / signal transduction / olfactory receptor cell / mouse

### Research Abstract

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It has been believed that olfactory transduction is mediated by two intracellular pathways, cAMP and IP3-pathways. These pathways are mediated by G-coupled protein. Recent studies have indicated that cyclic ADP-ribose (cADPR) related with signal systems in both insulin secretion from pancreas and signal transduction in Purkinje's cells of cerebellum. It is the purpose of this research to make inquiries into the relation of cADPR with signal transduction in olfactory receptor cells. To resolve this, we investigated them using olfactory epithelium of mouse by molecular biological technique. Cyclic AMP and cADPR concentrations of the extract from olfactory cilia fragments were measured by modified calcium shock method, to which evaluate in an instant of olfactory stimulation, but no remarkable changes were gained. The ligand binding of olfactory molecule to its receptor is vanished in an instant. More ingenious experiment system are needed to measure the instantaneous response in olfactory system.

## Research Products (5 results)

All Other

All Publications (5 results)

- [Publications] Miwa T et al.: "Role of nerve growth factor in the olfactory epithelium"Microscopy Research and Technique. 58. 197-203 (2002) ▼
- [Publications] 三輪高喜: "嗅覚障害の診断 現状と展望"日本味と匂学会誌. 10. 59-66 (2003) ▼
- [Publications] 三輪高喜: "アロマサイエンスシリーズ21 ニオイの受容"フレグランスジャーナル. 272 (2002) ▼
- [Publications] TAKAKI MIWA: "Role of nerve growth factor in the olfactory epithelium"Microscopy Research and Technique. 58. 197-203 (2002) ▼
- [Publications] TAKAKI MIWA: "The diagnosis of olfactory disturbance in Japan"The Japanese Journal of Taste and Smell Research. 10, 1. 59-66 (2003) ▼

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