

「メンブレントラフィック-分子機構から高次機能への展開」の取りまとめ

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| 著者 | 大野 博司 |
| 著者別表示 | Ohno Hiroshi |
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Research Project

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| Project/Area Number | 15079101 | All |
| Research Category | Grant-in-Aid for Scientific Research on Priority Areas | |
| Allocation Type | Single-year Grants | |
| Review Section | Biological Sciences | |
| Research Institution | The Institute of Physical and Chemical Research (2004-2008) Kanazawa University (2003) | |
| Principal Investigator | 大野 博司 The Institute of Physical and Chemical Research, 免疫系構築研究チーム, チームリーダー (50233226) | |
| Co-Investigator(Kenkyū-buntansha) | 中野 明彦 東京大学, 大学院・理学系研究科, 教授 (90142140) 吉森 保 大阪大学, 微生物病研究所, 教授 (60191649) 中山 和久 京都大学, 大学院・薬学研究科, 教授 (40192679) 和田 洋 大阪大学, 産業科学研究所, 准教授 (50212329) | |
| Project Period (FY) | 2003 – 2008 | |
| Project Status | Completed (Fiscal Year 2008) | |
| Budget Amount *help | ¥36,600,000 (Direct Cost: ¥36,600,000) Fiscal Year 2008: ¥2,900,000 (Direct Cost: ¥2,900,000) Fiscal Year 2007: ¥7,500,000 (Direct Cost: ¥7,500,000) Fiscal Year 2006: ¥7,500,000 (Direct Cost: ¥7,500,000) Fiscal Year 2005: ¥6,800,000 (Direct Cost: ¥6,800,000) Fiscal Year 2004: ¥6,800,000 (Direct Cost: ¥6,800,000) Fiscal Year 2003: ¥5,100,000 (Direct Cost: ¥5,100,000) | |

Keywords メンブレントラフィック / 小胞輸送 / 細胞内膜系 / オートファジー / 調節性分泌 / オルガネラ / 分泌系 / ポストゴルジ / 細胞・組織 / 蛋白質 / 細胞内輸送 / 細胞生物学

Research Abstract メンブレントラフィックは細胞が正常な生命活動を営むために必須なばかりでなく、神経伝達物質の放出やインスリン分泌をはじめとする調節性分泌、あるいは免疫応答におけるマクロファージ・樹状細胞による病原微生物などの取り込みと抗原提示など、高等多細胞生物の高次機能を支える基本的活動としても重要である。したがってその破綻は遺伝病をはじめとする種々の疾患に直結しており、メンブレントラフィックの研究は、基礎生物学の研究であると同時に、遺伝病や感染症の病態を理解し、その治療法の確立にも繋がる医学研究でもある。本研究は、特定領域研究「メンブレントラフィック-分子機構から高次機能への展開-」(略称：トラフィック)(平成15-19年度)の終了に伴い、その取りまとめを行うために助成を受けた。特定領域研究「トラフィック」は、計画研究10課題(総括班を除く)と公募研究(平成17-18年度51課題、平成18-19年度46課題)からなり、平成15-19年度の5年間の研究期間で行われた。平成20年9月24日に事後評価のヒアリングを受け、結果はA⁺⁺という最高のランクであった。平成21年1月29日には、文部科学省科学研究費補助金新学術領域研究「細胞内ロジスティクス：病態の理解に向けた細胞内物流システムの融合研究」と合同で終了シンポジウム(一般公開)を、航空会館(東京・新橋)7階大ホールにて開催した。127名の参加を得て、両研究領域より計10名の研究代表者が演者としてそれぞれの研究成果を発表した。また3月には、5年間の当特定領域研究の業績をまとめた成果報告書を刊行する。

Report (6 results)

- 2008 Annual Research Report
- 2007 Annual Research Report
- 2006 Annual Research Report
- 2005 Annual Research Report
- 2004 Annual Research Report
- 2003 Annual Research Report

Research Products (44 results)

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|-----|-----------------|--------------|---------|--------------|------|-------|
| All | 2007 | 2006 | 2005 | 2004 | 2002 | Other |
| All | Journal Article | Presentation | Remarks | Publications | | |

[Journal Article] Psg18 is specifically expressed in follicle-associated epithelium.

2007 ▾

[Journal Article] Construction of an open-access database that integrates cross-reference information from the transcriptome and proteome of immune cells.

2007 ▾

[Journal Article] CD19-CD35+B220+cells function as an inducer of the follicular dendritic cell-network formation.

2007 ▾

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| [Journal Article] Mutation screening of AP3M2 in Japanese epilepsy patients. | 2007 ▾ |
| [Journal Article] Live imaging of yeast Golgi cisternal maturation. | 2006 ▾ |
| [Journal Article] Suppression of basal autophagy in neural cells causes neurodegenerative disease in mice | 2006 ▾ |
| [Journal Article] A Drosophila unconventional myosin reverses the default handedness in visceral organs. | 2006 ▾ |
| [Journal Article] Cdk5 phosphorylates and stabilizes p27 ^{kip1} , contributing to actin organization and cortical neuronal migration. | 2006 ▾ |
| [Journal Article] RGMa inhibition promotes axonal growth and recovery after spinal cord injury. | 2006 ▾ |
| [Journal Article] Intracellular inclusions containing mutant 1-antitrypsin Z are propagated in the absence of autophagic activity. | 2006 ▾ |
| [Journal Article] Clathrin adaptor AP-2 is essential for early embryonal development. | 2005 ▾ |
| [Journal Article] Dissection of COPII subunit-cargo assembly and disassembly kinetics during Sar1p-GTP hydrolysis. | 2005 ▾ |
| [Journal Article] Escape of Intracellular Shigella from Autophagy. | 2005 ▾ |
| [Journal Article] ATP-dependent rotation of mutant ATP synthases defective in proton transport. | 2005 ▾ |
| [Journal Article] Defective function of GABA-containing synaptic vesicles in mice lacking the AP-3B clathrin adaptor | 2004 ▾ |
| [Journal Article] ER quality control of unassembled iron transporter dependson Rer1p-mediated retrieval from the Golgi | 2004 ▾ |
| [Journal Article] Autophagy defends cells against invading group A Streptococcus | 2004 ▾ |
| [Journal Article] Tollip and Tom1 form a complex and recruit ubiquitin-conjugated proteins onto early endosomes | 2004 ▾ |
| [Journal Article] Regulatory elements directing gut expression of the GATA46 gene during mouse early development | 2004 ▾ |
| [Journal Article] Roles of ARFRP1 (ADP-ribosylation factor-related protein 1) in post-Golgi membrane trafficking. | 2002 ▾ |
| [Presentation] ニューロメタボノミクスにおける安定同位体標識技術の適用 | 2007 ▾ |
| [Presentation] 腸内細菌群のニューロメタボノミクス基盤技術の構築 | 2007 ▾ |
| [Presentation] 非ストレス状態におけるJNKによる翻訳調節 | 2007 ▾ |
| [Presentation] Identification of molecules expressed in FAE and M cells to be involved in mucosal immunity. | 2007 ▾ |
| [Presentation] Identification of a CD11c ⁺ CD19 ⁺ unique cell population in the mucosa-associated lymphoid tissues: A potential role in M cell development | 2007 ▾ |
| [Presentation] Epithelial-specific adaptor complex, AP-1B is essential for maintenance of immunological tolerance in the colon | 2007 ▾ |
| [Presentation] Bacterial adhesin is a ligand for endocytic receptor glycoprotein 2 expressed on M cells | 2007 ▾ |
| [Presentation] Psg18 is specifically expressed in follicle-associated epithelium | 2007 ▾ |
| [Presentation] Gene expression profiles of follicle associated epithelium covering marine intestinal Peyer's patches in response to host-bacterial cross-talk | 2007 ▾ |
| [Presentation] Endogenous prion protein expressed on M cells: A potential antigen uptake receptor | 2007 ▾ |
| [Presentation] M-Sec: the M cell-specific Sec family molecule that regulates tunneling nanotubule (TNT) formation | 2007 ▾ |
| [Presentation] Activation-induced cytidine deaminase deficiency causes severe gastritis with mucosal hyperplasia | 2007 ▾ |
| [Presentation] Identification of CD11c ⁺ CD19 ⁺ cells in the mucosa-associated lymphoid tissues: A potential role in M cell development | 2007 ▾ |
| [Presentation] Differential gene expression profiles of follicle-associated epithelium covering marine intestinal Peyer's patches in response to host-bacterial cross-talks. | 2007 ▾ |
| [Presentation] Identification of a new endocytic receptor expressed in the apical plasma membrane of M cells. | 2007 ▾ |
| [Presentation] Endogenous prion protein expressed on the apical plasma membrane in M cells could function as a potential antigen uptake receptor | 2007 ▾ |
| [Presentation] 宿主-腸内フローラ間相互作用の解析とその評価系の構築 | 2007 ▾ |
| [Presentation] Analysis of epithelial-specific AP-1B-deficient mice | 2007 ▾ |
| [Presentation] CD300 like family member G: A novel Ig receptor like protein exclusively expressed on capillary endothelium | 2007 ▾ |

[Remarks] ▼

[Remarks] ▼

[Publications] Yoshimura, S., 他9名: "Identification of a five-pass transmembrane protein family localizing in the Golgi apparatus and the ER."J.Biochem.. (In press). ▼

[Publications] Ito, M., 他8名: "Intreaction of a farnesylated protein with renal type IIa Na/Pi cotransporter in response to parathyroid hormone and dietary phosphate."Biochem.J.. 377(3). 607-616 (2004) ▼

[Publications] Shakoori, A., 他7名: "Identification of a five-pass transmembrane protein family localizing in the Golgi apparatus and the ER."Biochem.Biophys.Res.Commun.. 312(3). 850-857 (2003) ▼

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