

(様式1)

公益社団法人日本栄養・食糧学会 研究業績

<学 会 賞>

1. 候補者

研究題目:(和)	脂質代謝制御の分子食品科学研究		
(英)	Molecular food science research on regulation of lipid metabolism		
氏 名:(和)	佐藤 隆一郎		
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所属機関:(和)	東京大学大学院農学生命科学研究科応用生命化学専攻・教授		
(英)	Dept. of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, Professor		
学 位:	農学博士	最終学歴:	昭和 60 年3月、東京大学大学院農学系研究科農芸化学専門課程修了
専門分野	①栄養生理学、②栄養生化学、③分子栄養学、④公衆栄養学、⑤臨床・病態栄養学、⑥食生態学、⑦調理科学、⑧食品化学・食品分析学、⑨食品機能学、⑩食品工学、⑪食品加工・流通・貯蔵学、⑫食品衛生・安全学、⑬生理学、⑭生化学、⑮分子生物学、⑯臨床医学（内科系）、⑰臨床医学（外科系） ⑱その他		
履 歴	1986 年 4 月	帝京大学薬学部助手	
	1990 年 10 月	同上退職	University of Texas Southwestern Medical Center 博士研究員
	1994 年 8 月	帝京大学薬学部講師復職	
	1995 年 7 月	大阪大学薬学部助教授	
	1999 年 8 月	東京大学大学院農学生命科学研究科助教授	
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2. 研究業績要旨(1,000字以内)

候補者は、東京大学大学院修士、博士課程在籍時には、カゼイン由来の消化産物ホスホペプチドがカルシウム吸収促進効果を発揮する機構を食品栄養学的見地から明らかにする研究に従事した。その後、薬学、医学領域でコレステロール代謝調節研究を行ってきた。再び栄養・食糧領域に復帰する機会を得た事から、生活習慣病の発症を遅延させ、国民の健康寿命延伸に役立つ食品機能の活用を目指し、広く脂質代謝、エネルギー代謝改善に寄与する食品成分の機能探索に焦点を当て、研究を進展させてきた。候補者の研究スタイルは、脂質代謝基礎研究で培ってきた分子細胞生物学的な方法論に基づき、代謝調節に深く関与する生体内標的分子を特定し、この分子に対し、作用を及ぼす化合物を精製食品成分より探索するという特徴を持つ。その際には、分子細胞生物学的な手法で、簡便かつ感受性の高いアッセイシステムを構築すること、さらに可能な数の食品成分化合物ライブラリーを自前で調達する事などを達成し(およそ300種類化合物)、広い範囲の食品群から隠れた活性を有する食品成分を見出す事に成功している。これまで標的とした生体内分子としては、脂質代謝に深く関与する転写因子SREBP(候補者はその発見に従事した)、LDL受容体、抗肥満作用を発揮する胆汁酸受容体TGR5、複数の核内受容体が挙げられる。いずれもその活性、発現を食品成分化合物がコントロールする事により、代謝改善効果が期待される結果を得ている。一方、食品成分としては、各種フラボノイド、レスベラトロール、プロシアニジン、グルタミン、大豆タンパク質等にそれぞれ固有の機能を見出し、食品成分と生体内機能分子との新たな接点を明らかにしてきた。このような独自のスタイルで食品科学研究を展開する一方で、代謝調節基礎研究も平行して進展させ、その研究成果より新たな標的分子を見出し、食品成分探索応用研究へと結び付ける努力を行っている。同時に、食品機能研究より見出された食品成分を用い、標的分子の活性化機構、受容体へのリガンド結合機構を明らかにする基礎研究を展開しつつある。全体として、基礎研究から応用研究を展開し、応用研究成果から基礎研究を再展開するという、基礎-応用研究の有機的な融合を目指した研究を進展させつつある。

3. 報文等リスト

(1) この研究に直接関連するもの(10 編以内)

Miyata, S., Inoue, J., Shimizu, M., and Sato, R. 4'-Hydroxyflavanone suppresses activation of sterol regulatory element-binding proteins and de novo lipid synthesis. *FEBS Lett.* 586, 1778-1782 (2012)

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(2) その他の論文(編数制限なし)

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(3) 過去 5 年間の本学会での活動状況

日本栄養・食糧学会 参与/代議員 2012 年

日本栄養・食糧学会 参与/評議員 2008 年 ~ 2010 年

第 65 回日本栄養・食糧学会大会(東京) シンポジウム「脂質代謝研究の今日的话题」
シンポジスト 佐藤隆一郎「LDL 受容体発現調節の仕組み」 2011 年 5 月 15 日

第 64 回日本栄養・食糧学会大会(徳島) シンポジウム「脂質・エネルギー代謝制御の分子栄養学」
オーガナイザー・座長 井上裕康／宮澤陽夫／佐藤隆一郎 2010 年 5 月 22 日

第 84 回日本栄養・食糧学会関東支部大会(神奈川) シンポジウム「栄養と食糧のバイオサイエンス
-最近の話題から-」
シンポジスト 佐藤隆一郎「脂質代謝調節に関する最近の話題」 2009 年 9 月 19 日

第 57 回日本栄養・食糧学会中部支部大会(愛知) シンポジウム「アミノ酸の機能と栄養」
シンポジスト 佐藤隆一郎「脂質代謝を制御するアミノ酸の新たな機能」 2009 年 6 月 20 日

第 62 回日本栄養・食糧学会大会(坂戸) シンポジウム「油脂の栄養と機能をめぐる今日的话题」
シンポジスト 佐藤隆一郎「脂質代謝の恒常性維持と転写制御」 2007 年 5 月 4 日

(4) 特記事項

該当無し