（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)	生活習慣病予防に資するポリフェノールの食品機能学的研究		
（英）	Food Functional Studies on Preventive Effects of Polyphenols on Life-style Related Diseases		
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（英）	Hitoshi Ashida		
所属機関:(和)	神戸大学大学院農学研究科・教授		
（英）	Department of Agrobioscience, Graduate School of Agricultural Science, Kobe University, Professor		
学　　位:	学術博士	最終学歴:	昭和 63 年 3 月、神戸大学大学院自然科学研究科資源生物科学専攻博士課程修了
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	昭和 63 年 4 月 1 日　日本学術振興会特別研究員 平成 2 年 4 月 1 日　同上退職、神戸大学助手(農学部) 平成 6 年 4 月 1 日　University of California, Davis 博士研究員 (平成 7 年 9 月 30 日迄) 平成 11 年 2 月 1 日　神戸大学助教授(農学部) 平成 16 年 4 月 1 日　神戸大学教授(農学部) 平成 19 年 4 月 1 日　改組により神戸大学大学院教授(農学研究科)、現在に至る		
会員番号:		入会年度:	昭和 59 年

2. 研究業績要旨(1,000 字以内)

ポリフェノールは多様な機能を有し、生活習慣病をはじめとする様々な疾病の予防・改善に関わる機能性を発揮することが期待されている。候補者は、フラボノイドに着目し、１）化学発がん物質の作用軽減効果と、２）高血糖・肥満の予防・改善効果に関わる研究を実施してきた。

１）化学発がん物質の作用軽減効果

フラボノイドが、アリール炭化水素受容体（AhR）を介した薬物代謝系の酵素発現を調節することで、化学発がん物質の作用を軽減することを明らかにした。具体的には、薬物代謝系第Ⅰ相酵素の発現に関わる AhR の形質転換を抑制する食品因子を培養細胞で探索した結果、フラボノイドのうち、フラボンとフラボノールに属する化合物が AhR のアンタゴニストとなることを見出した。この作用には抗酸化性は無関係で、化合物の平面構造と疎水性が重要であること、フラボンとフラボノールは AhR を拮抗的に阻害すること、リン酸化を抑制することで AhR の核内移行を阻害し、結果的に AhR の転写因子としての作用を抑制することを明らかにした。さらに、動物実験で、フラボノイドを多く含む食品素材は、AhR のアゴニストであるベンゾ[a]ピレンやメチルコランスレンの毒性発現を軽減することを実証した。

２）高血糖・肥満の予防・改善効果

フラボノイドが、グルコース輸送担体 4 型（GLUT4）と AMP 活性化プロテインキナーゼ（AMPK）を鍵分子として、高血糖や肥満を予防・改善する可能性を示した。具体的には、血糖値の調節に関わる GLUT4 の細胞膜移行を調節する食品因子を培養細胞で探索した結果、エピガロカテキンガレート（EGCG）や、プロシアニジン、カルコンなどを見出した。EGCG はきわめて低濃度で、インスリンとは異なる機構でシグナル伝達に関わる PI3K（phosphoinositide 3-kinase）と aPKC（atypical protein kinase C）の活性化を介して GLUT4 の細胞膜移行を促進することを明らかにした。一方で、プロシアニジンは主に AMPK 経路を活性化するとともに、動物個体ではインクレチン効果を示すことで GLUT4 の細胞膜移行を促進することを示した。また、プロシアニジンやカルコンによる AMPK の活性化は、脂肪細胞の分化抑制や肝細胞におけるエネルギー代謝の亢進と脂肪蓄積抑制に関わることも明らかにした。さらに、ポリフェノールを多く含む黒大豆種皮抽出物や発酵茶が脱共役タンパク質 1 やミトコンドリアの生合成および酸化的リン酸化を促進する転写コアクチベーターの PGC1α の発現を促進することで、ベージュ細胞の形成を促す可能性を示した。

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）

1. Zhang, T., Yamashita, Y., Yasuda, M., Yamamoto, N., Ashida, H. Ashitaba (*Angelica keiskei*) extract prevent adiposity in high-fat diet-fed C57BL/6 mice. *Food and Function*, 6, 135-145, 2015.
2. Fukuda, I., Nishiumi, S., Mukai, R., Yoshida, K., **Ashida, H.** Catechins in tea suppress the expression and activity of cytochrome P450 1A1 through the aryl hydrocarbon receptor activation pathway in rat livers. *International Journal of Food Sciences and Nutrition.* 66, 300-307, 2015.
3. Zhang, T., Yamamoto, N., Yamashita, Y., **Ashida, H.** The chalcones cardamonin and flavokawain B inhibit the differentiation of preadipocytes to adipocytes by activating ERK. *Archives Biochemistry and Biophysics.* 554, 44-54, 2014.
4. Zhang, T., Kimura, Y., Jiang, S., Harada K., Yamashita, Y., **Ashida, H.** Luteolin modulates expression of drug-metabolizing enzymes through the AhR and Nrf2 pathways in hepatic cells. *Archives Biochemistry and Biophysics.* 557, 36-46, 2014.
5. Sawada, K., Yamashita, Y., Zhang, T., Nakagawa, K., **Ashida, H.** Glabridin induces glucose uptake via the AMP-activated protein kinase pathway in muscle cells. *Molecular and Cellular Endocrinology*, 393, 99-108, 2014.
6. Zhang, T., Yamamoto, N., **Ashida, H.** Chalcones suppress fatty acids-induced lipid accumulation through a LKB1/AMPK signaling pathway in HepG2 cells. *Food and Functions*, 5, 1134-1141, 2014.
7. Yamashita, Y., Wang, L., Tanaka, Y., Zhang, T., **Ashida, H.** Oolong, black and pu-erh tea suppresses adiposity in mice *via* activation of AMP-activated protein kinease. *Food and Functions*, 5, 2420-2429, 2014.
8. Zhang, T., Sawada, K., Yamamoto, N., **Ashida, H.** 4-Hydroxyderricin and xanthoangelol from Ashitaba (*Angelica keiskei*) suppress differentiation of preadiopocytes to adipocytes via AMPK and MAPK pathways. *Molecular Nutrition and Food Research*, 57, 1729-1740, 2013.
9. Yamashita, Y., Okabe, M., Natsume, M., **Ashida, H.** Prevention mechanisms of glucose intolerance and obesity by cacao liquor procyanidin extract in high-fat diet-fed C57BL/6 mice. *Archives Biophysics and Biochemistry.* 527, 95-104, 2012.
10. Mukai, R., Shirai, Y., Saito, N., Fukuda, I., Nishiumi, S., Yoshida, K., **Ashida, H.** Suppression mechanisms of flavonoids on aryl hydrocarbon receptor-mediated signal transduction. *Archives of Biochemistry and Biophysics*, 501, 134-141, 2010.

（2） その他の論文（編数制限なし）

＜原著論文＞

11. Uno, T., Ogura, C., Izumi, C., Nakamura, M., Yanase T., Yamazaki, H., **Ashida, H.**, Kanamaru, K., Yamagata, H., Imaishi, H. Point mutation of cytochrome P450 2A6 (a polymorphic allele *CYP2A6.25*) confers new substrate specificity towards flavonoids. *Biopharmaceutics & Drig Disposition*, 36, 552-563, 2015.
12. Yamashita, Y., Ueda-Wakagi, M., Sakamoto, M., Tachibana, N., Wanezaki, S., Kohono, M., **Ashida, H.**: β-Conglycinin peptides improve glucose uptake through the AMPK signalling pathway in L6 myotubes. *Food Science and Technology Research*, 21, 727-732, 2015.
13. Hayashi, D., Ueda, S., Yamanoue, M., Saito, N., **Ashida, H.**, Shirai, Y. Epigallocatechin-3-gallate activates diacylglycerol kinase alpha via a 67 kDa laminin receptor: A possibility of galloylated catechins as functional food to prevent and/or improve diabetic renal dysfunctions. *Journal of Functional Foods*, 15, 561-569, 2015.
14. **Ashida, H.**, Harada, K., Mishima, S., Mitani, T., Yamashita, Y., Matsumura, F. Luteolin suppresses TCDD-induced wasting syndrome in a cultured adipocyte model. *Pesticide Biochemistry and Physiology*, 120, 14-20, 2015.
15. Mitani, T., Minami, M., Harada, N., **Ashida, H.**, Yamaji, R. Autophagic degradation of the androgen receptor mediated by increased phosphorylation of p62 suppresses apoptosis in hypoxia. *Cellular Signalling*, 27, 1994-2001, 2015.
16. Nagano, T., Hayashibara, K., Ueda-Wakagi, M., Yamashita, Y., **Ashida, H.** Black tea

polyphenols promotes GLUT4 translocation through both PI3K- and AMPK-dependent pathways in skeletal muscle cells. *Food Science and Technology Research*, 21, 489-494, 2015.

17. Ueda-Wakagi, M., Mukai, R., Fuse, N., Mizushina, Y., **Ashida, H.** 3-*O*-Acyl-epicatechins increase glucose uptake activity and GLUT4 translocation through activation of PI3K signalling in skeletal muscle cells. *International Journal of Molecular Science*, 16, 16288-16299, 2015.
18. Tachibana, N., Yamashita, Y., Nagata, M., Wanesaki, S., **Ashida, H.**, Horio, F., Kohno, M. Soy β-conglycinin improves glucose uptake in skeletal muscle and ameliorates hepatic insulin resistance in Goto-Kakizaki rats. *Nutrition Research*, 34, 160-167, 2014.
19. Yasuda, M., Kawabata, K., Miyashita, M., Okumura, M., Yamamoto, N., Takahashi, M., **Ashida, H.**, Ohigashi, H. Inhibitory effects of 4-hydroxyderricin and xanthoangelol on lipopolysaccharide-induced inflammatory responses in RAW264 macrophages. *Journal of Agricultural and Food Chemistry*, 62, 462-467, 2014.

*20. Mitani, M., Ito, Y., Harada, N., Nakano, Y., Inui, H., **Ashida, H.**, Yamaji, R. Resveratrol reduces the hypoxia-induced resistance to doxorubicin in breast cancer cells. *Journal of Nutritional Science and Vitaminology*. 60, pp. 122-128, 2014.

21. Hsu, C.Y., Shih, H.Y., Chia, H.C., Lee, C.H., **Ashida, H.**, Lai, Y.K., Weng, C.F. Rutin potentiates insulin receptor kinase to enhance insulin-dependent glucose transporter 4 translocation. *Molecular Nutrition and Food Research.* 58, 1168-1176, 2014.
22. Shimazu, S., Ohta, M., **Ashida, H.** Application of lipid extracts from *Solidago canadensis* to phytomonitoring of PCB126 in transgenic Arabidopsis plants. *Science of the Total Environment.* 491-492, 240-245, 2014.
23. Taketani, Y., Kinugasa, K., Kitajima, R., Nishiumi, S., **Ashida, H.**, Nakamura, H., Fujita, T., Kanzaki, K., Masutani, H., Yodoi, J. Protective effects of oral administration of yeast thioredoxin against gastric mucosal injury. *Bioscience, Biotechnology, and Biochemistry,* 78, 1221-1230, 2014.
24. **Ashida, H.**, Zhang, T., Kimura, Y., Jiang, S., Harada, K., Yamashita, Y. Effects of luteolin on TCDD- and *tert*-butylhydroquinone-induced drug-metabolizing enzynes and nuclear factor-erythroid-2-related factor 2. *Organohalogen Compounds*. 76, 317-320, 2014.
25. Kawase, M., Saito, T., Nakano, Y., Yamashita, Y., Imada, S., **Ashida, H.** Effect of green tea extract on mineral contents in mice hair. *Food Science and Technology Research*, 19, 123-125, 2013.
26. Ueda, M., **Ashida, H.** Brazilian propolis extract promotes uptake of glucose and translocation of glucose transporter 4 through PI3K-dependent pathway in skeletal muscle. *BioFactors* 39, 457-466, 2013.
27. Zhang, T., Jiang, S., He, C., Kimura, Y., Yamashita, Y., **Ashida, H.** Black soybean seed coat polyphenols prevent B(a)P-induced DNA damage through modulating drug-metabolizing enzymes in HepG2 cells and ICR mice. *Mutat Res*, 752, 34-41, 2013.
28. Yasuda, M., Furuyashiki, T., Nakamura, T., Kakutani, R., Takata, H., **Ashida, H.** Enzymatically synthesized glycogen was degraded to glycogen with lower molecular weight in human intestinal model of Caco-2 cells. *Food and Function*, 4, 1387-1393, 2013.
29. Zhang, T., Kawabata, K., Kitano, R., **Ashida, H.** Preventive effects of black soybean seed coat polyphenols against DNA damage in Salmonella typhimurium, *Food Science and Technology Research*, 19, 685-690, 2013.
30. Kurimoto, Y., Shibayama, Y., Inoue, S., Soga, M., Takikawa, M., Ito, C., Nanba, F., Yoshida, T., Yamashita, Y., **Ashida, H.**, Tsuda, T. Black soybean seed coat extract ameliorates hyperglycemia and insulin sensitivity via the activation of AMP-activated protein kinase in diabetic mice. *Journal of Agricultural and Food Chemistry*, 61, 5558-5564, 2013.
31. Takikawa, M., Kumagai, A., Hirata, H., Soga, M., Yamashita, Y., Ueda, M., **Ashida, H.**, Tsuda, T. 10-Hydroxy-2-decenoic acid, a unique medium-chain fatty acid, activates AMP-activated protein kinase in L6 myotubes and mice. *Molecular Nutrition and Food Research*, 57,

1794-1802, 2013.

32. Furuyashiki, T., Ogawa, R., Nakayama, Y., Honda, K., Kamisoyama, H., Takata, H., Yasuda, M., Kuriki, T., **Ashida, H.** Dietary supplementation of enzymatically synthesized glycogen reduces lipid accumulation in adipose tissue and liver in rats with diet-induced obesity. *Nutrition Research,* 33, 743-752, 2013.
33. Yamashita, Y., Yamaoka, M., Hasunuma, T., **Ashida, H.**, Yoshida, K. Detection of orally administered inositol stereoisomers in mouse blood plasma and their effects on translocation of glucose transporter 4 in skeletal muscle cells. *Journal of Agricultural and Food Chemistry,* 61, 4850-4854, 2013.
34. Yamashita, Y., Okabe, M., Natsume, M., **Ashida, H.** Cinnamtannin A2, a tetrameric procyanidin, increases GLP-1 activity and insulin secretion. *Bioscience, Biotechnology and Biochemistry,* 77, 888-891, 2013.
35. Shimazu, S., Ohta, M., **Ashida, H.** Application of Solidago canadensis extract to phytomonitering of polychlorinated biohenyl congeners in the transgenic Arabidopsis plants carrying the recombinant guinea pif aryl hydrocarbon receptor-mediated β-glucuronidase reporter gene expression system. *Organohalogen Compounds,* 75, 398-401, 2013.
36. He. C., Yamamoto, N., **Ashida, H.** Inhibitory effect of cardamonin on transformation of aryl hydrogen receptor. *Organohalogen Compounds,* 75, 620-624, 2013.
37. Mitani, T., Kinehara, M., Yoshida, K., **Ashida, H.** Aryl hydrocarbon receptor enhances the expression of multidrug-resistant mdr1b through p53 in mouse hepatoma cells. *Organohalogen Compounds*, 75, 625-628, 2013.
38. Xu, X., Chen, P., Zhang, L., **Ashida, H.** Chain structures of glucans from *Lentinus edodes* and their effects on NO production from RAW 264.7 macrophages. *Carbohydrate polymers*, 87, 1855-1862, 2012.
39. Xu, X., Yashuda, M., Nakamura-Tsuruta, S., Mizuno, M., **Ashida, H.** Beta-Glucan from Lentinus edodes inhibits NO and TNF-α production and phosphorylation of mitogen-activated protein kinases in LPS-stimulated murine RAW 264.7 macrophages. *Journal of Biological Chemistry*, 287, 871-878, 2012.
40. Kawase, M., Saito, T., Yasunaga, T., Takagi, T., Fukuda, I., **Ashida, H.** New structure descriptor in structure-activity relationship study in the suppression of the aryl hydrocarbon receptor transformation by anthraquinones. *Food Science and Technology Research,* 18, 173-176, 2012.
41. Nishiumi, S., Hosokawa, K., Anetai, M., Shibata, T., Mukai, R., Yoshida, K., **Ashida, H.** Antagonistic effect of the Ainu-selected traditional beneficial plants on the transformation of an aryl hydrocarbon receptor. *Journal of Food Science*, 77, C420-C429, 2012.
42. Nakamura-Tsuruta, S., Yasuda, M., Nakamura, T., Shinoda, E., Furuyashiki, T., Kakutani, R., Takata, H., Kato, Y., **Ashida, H.** Comparative analysis of carbohydrate-binding specificities of two anti-glycogen monoclonal antibodies using ELISA and surface plasmon resonance. *Carbohydrate Research,* 350, 49-50, 2012.
43. Sawada, K., Kawabata, K., Yamashita, T., Kawasaki, K., Yamamoto, N., **Ashida, H.** Ameliorative effects of polyunsaturated fatty acids against palmitic acid-induced insulin resistance in L6 skeletal muscle cells. *Lipids in Health and Disease,* 11, #36, 2012.
44. Nakamura, T., Tokushima, T., Kawabata, K., Yamamoto, N., Miyamoto, M., **Ashida, H.** Absorption and metabolism of 4-hydroxyderricin and xanthoangelol after oral administration of *Angelica keiskei* in mice. *Archives Biophysics and Biochemistry.* 521, 71-76, 2012.
45. Yamashita, Y., Okabe, M., Natsume, M., **Ashida, H.** Cacao liquor procyanidin extract improves glucose tolerance by enhancing GLUT4 translocation and glucose uptake in skeletal muscle. *Journal of Nutritional Science.* 1, e2, 2012.
46. Yamashita, Y., Okabe, M., Natsume, M., **Ashida, H.** Comparison of anti-hyperglycemic activities between low- and high-degree of polymerization procyanidin fractions from cacao liquor extract. *Journal of Food and Drug Analysis.* 20 (suppl1), 283-287, 2012.

47. Ueda, M., **Ashida, H.** Green tea prevents hyperglycemia by increasing expression of insulin-like growth factor binding protein-1 in adipose tissue of high-fat diet-fed mice. *Journal of Agricultural and Food Chemistry.* 60, 8917-9823, 2012.
48. Shimazu, S., Ohta, M., Ohkawa, H., **Ashida, H.** Assays of polychlorinated biphenyl congeners and co-contaminated heavy metals in the transgenic Arabidopsis plants carrying the recombinant guinea pig aryl hydrocarbon receptor-mediated β-glucuronidase reporter gene expression system. *Journal of Environmental Science and Health, Part B*, 47, 925-935, 2012.
49. Xu, X., Yasuda, M., Mizuno, M., **Ashida, H.** β-Glucan from Saccharomyces cerevisiae reduces lipopolysaccharide-induced inflammatory responses in RAW264.7 macrophages. *Biochmica Biophysica et Acta, General Subject.* 1820, 1656-1663, 2012.
50. Nishiumi, S., Mukai, R., Ichiyanagi, T., **Ashida, H.** Suppression of the lipopolysaccharide and galactosamine-induced hepatic inflammation by red grape pomace. *Journal of Agricultural and Food Chemistry.* 60, 9315-9320, 2012.
*51. Kobayashi, M., Matsuda, Y., Iwai, H., Hiramitsu, M., Inoue, T., Katagiri, T., Yamashita, Y., **Ashida, H.**, Murai, A., Horio, F. Coffee improves insulin-stimulated Akt phosphorylation in liver and skeletal muscle in diabetic KK-Ay mice. *Journal of Nutritional Science and Vitaminology,* 58, 408-414, 2012.
52. Yamashita, Y., Wang, L., Tainshun, Z., Nakamura, T., **Ashida, H.** Improvement of glucose intolerance by fermented tea through promoting translocation of glucose transporter in skeketal muscle of mice. *Journal of Agricultural and Food Chemistry,* 60, 11366-11371, 2012.
53. Kawabata, K., Sawada, K., Ikeda, K., Fukuda, I., Yamamoto, N., **Ashida, H.** Prenylated chalcones 4-hydroxyderricin and xanthoangelol stimulate glucose uptake in skeletal muscle cells by inducing GLUT4 translocation. *Molecular Nutrition and Food Research*, 55, 467-475, 2011.
54. Yamamoto, N., Kanamoto, Y., Ueda, M., Kawasaki, K., Fukuda, I., **Ashida, H.** Anti-obese and anti-diabetic effects of ethanol extract of *Artemisia princeps* in C57BL/6 mice fed a high fat diet. *Food and Function*, 2, 45-52, 2011.
55. Furuyashiki, T., Takata, H., Kojima, I., Kuriki, T., Fukuda, I., **Ashida, H.** Metabolic fate of orally administered enzymatically synthesized 1 glycogen in rats. *Food and Function,* 2, 183-189, 2011.
56. Yamamoto, N., Kawabata, K., Sawada, K., Ueda, M., Fukuda, I., Kawasaki, K., Murakami, A., **Ashida, H.** Cardamonin stimulates glucose uptake through translocation of glucose transporter 4 in L6 myotubes. *Phytotherapy Research,* 25, 1218-1224, 2011.
57. Furumatsu, K., Nishiumi, S., Kawano, Y., Ooi, M., Yoshie, T., Shiomi, Y., Kutsumi, H., **Ashida, H.** Fujii-Kuriyama, Y., Azuma, T., Yoshida. M. A role of the aryl hydrocarbon receptor in attenuation of colitis. *Digestive Diseases and Sciences,* 56, 2532-2544, 2011.
58. Imada, S., Tanaka, A., Nishiumi, S., **Ashida, H.** Concentration of catechins and caffeine in black tea affect suppression of fat accumulation and hyperglycemia in high-fat diet-fed mice. *Food Science and Technology Research*, 17, 353-359, 2011.
59. Nakamura, T., Tanaka, R., **Ashida, H.** Possible evidence of contamination by catechins in deconjugation enzymes from *Helix pomatia* and *Abalone entrails*. *Bioscience, Biotechnology and Biochemistry*, 75, 1506-1510, 2011.
60. Kanamoto, Y., Yamashita, Y., Nanba, F., Yoshida, T., Tsuda, T., Fukuda, I., Nakamura-Tsuruta, S., **Ashida, H.** A black soybean seed coat extract prevents obesity and glucose intolerance by up-regulating uncoupling proteins and down-regulating inflammatory cytokines in high-fat diet-fed mice. *Journal of Agricultural Food Chemistry*, 59, 8985-8993, 2011.
61. Xu, X., Chen, P., Zhang, L., **Ashida, H.** An immunomodulatory beta-glucan from lentinus edodes activates mitogen activated protein kinases and nuclear factor κB in murin RAW 264.7 macrophages. *Journal of Biological Chemistry*, 286, 31194-31198, 2011.
62. Fukuda, I., Tsutsui, M., Yoshida, T., Toda, T., Tsuda, T., **Ashida, H.** Acute and chronic oral toxicity studies of black soybean (*Glycine max*) hull extract in mice and rats. *Food and Chemical*

Toxicology, 49, 3272-3278, 2011.

63. Ogawa, M., Yamaji, R., Higashimura, R., Harada, N., **Ashida, H.**, Nakano, Y., Inui, H. 17β-estradiol represses myogeninc differentiation by increasing ubiquitin-specific peptidase 19 through estrogen receptor α. *Journal of Biological Chemistry*, 286, 41455-41465, 2011.
64. Dang, N. T., Mukai, R., Yoshida, K., **Ashida, H.** D-pinitol and *myo*-inositol stimulate translocation of glucose transporter 4 in skeletal muscle of C57BL/6 mice. *Bioscience Biotechnology and Biochemistry*, 74, 1062-1067, 2010.
65. Nishiumi, S., Yoshida, M., Azuma, T., Yoshida, K., **Ashida, H.** 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin impairs an insulin signaling pathway through the induction of tumor necrosis factor−α in adipocytes. *Toxicology Science*, 115, 482-491, 2010.
66. Morinaga, T., **Ashida, H.**, Yoshida, K. Identification of two *scyllo*-inositol dehydrogenases in *Bacillus subtilis*. *Microbiology*, 156 (Pt 5), 1538-1546, 2010.
67. Morinaga, T., Kobayashi, K., **Ashida, H.**, Fujita, Y., Yoshida, K. Transcriptional regulation of the *Bacillus subtilis* asnH operon and role of the 5'-proximal long sequence triplication in RNA stabilization. *Microbiology*, 156 (Pt 6), 1632-1641, 2010.
68. Ogawa Akazawa, Y., Saito, Y., Nishio, K., Horie, M., Kinumi, T., Masuo, Y., Yoshida, Y., **Ashida, H.**, Niki, E. Proteomic characterization of the striatum and midbrain treated with 6-hydroxydopamine: Alteration of 58-kDa glucose-regulated protein and C/EBP homologous protein. *Free Radical Research*, 44, 410-421, 2010.
69. Morinaga, T., Matsuse, T., **Ashida, H.**, Yoshida, K. (2010): Differential substrate specificity of two inositol transporters of *Bacillus subtilis*. *Bioscience, Biotechnology, and Biochemistry*, 74, 1312-1314, 2010.
70. Hamada, M., Satsu, H., **Ashida, H.**, Sugita-Konishi, Y., Shimizu, M. Metabolites of galangin by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin- inducible cytochrome p450 1A1 in human intestinal epithelial Caco-2 cells and their antagonistic activity toward aryl hydrocarbon receptor. *Journal of Agricultural Food Chemistry*, 58, 8111-8118, 2010.
71. Yamamoto, N., Kawasaki, K., Kawabata, K., **Ashida, H.** An enzymatic fluorimetric assay to quantitate 2-deoxyglucose and 2-deoxyglucose-6- phosphate for *in vitro* and *in vivo*. *Analytical Biochemistry*, 404, 238-240, 2010.
72. Kawano, Y., Nishiumi, S., Tanaka, S., Nobutani, K., Miki, A., Yano, Y., Seo, Y., Kutsumi, H., **Ashida, H.**, Azuma, T. Yoshida, M. Activation of the aryl hydrocarbon receptor induces hepatic steatosis via upregulation of fatty acid transport. *Archives of Biochemistry and Biophysics*, 504, 221-227, 2010.
73. Shimazu, S., Kawabata, Y., Inayoshi, A., Inui, H., **Ashida, H.** Ohkawa, H. Recombinant human AhR-mediated GUS reporter gene assays for PCB congeners in transgenic tobacco plants in comparison with recombinant mouse and guinea pig AhRs. *Journal of Environmental Science and Health B.* 45, 764-772, 2010.
74. Shimazu, S., Ohta, M., Inui, H., Nanasato, Y., **Ashida, H.**, Ohkawa, H. Biosurfactants useful for assays of PCB congeners in transgenic arabidopsis plants carrying a recombinant guinea pig AhR-mediated GUS reporter gene expression system. *Journal of Environmental Science and Health B*, 45, 773-779, 2010.
75. Yamamoto, N., Ueda, M., Kawabata, K., Sato, T., Kawasaki, K., Hashimoto, T., **Ashida, H.** Artemisia princeps extract promotes glucose uptake in cultured L6 muscle cells via glucose transporter 4 translocation. *Bioscience, Biotechnology and Biochemistry*, 74, 2036-2042, 2010.
76. Ueda, M., Furuyashiki, T., Yamada, K., Aoki, Y., Fukuda, I., Yoshida, K., **Ashida, H.** Tea catechins modulate translocation of the glucose transporter 4 in 3T3-L1 adipocytes. *Food and Function*, 1, 167-173, 2010.
77. Nishiumi, S., Bessyo, H., Kubo, M., Aoki, Y., Tanaka, A., Yoshida, K., **Ashida, H.** Green and black tea suppress hyperglycemia and insulin resistance by retaining the expression of glucose transporter 4 in muscle of high-fat diet-fed C57BL/6J mice. *Journal of Agricultural Food*

Chemistry, 58, 12916-12923, 2010.

78. Fukuda, I., Kaneko, A., Nishiumi, S., Kawase, M., Nishikiori, R., Fujitake, N., **Ashida, H.** Structure-activity relationships of anthraquinones on the suppression of DNA-binding activity of the aryl hydrocarbon receptor induced by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. *Journal of Bioscience and Bioengineering,* 107, 296-300, 2009.
79. Goto, H., Kumada, Y., **Ashida, H.**, Yoshida, K. Discovery of novel 2',3',4'-trihydroxy-2-phenylacetophenone derivatives as anti-Gram-positive antibacterial agents. *Bioscience, Biotechnology, and Biochemistry,* 73, 124-125, 2009.
80. Kinehara, M., Fukuda, I., Yoshida, K., **Ashida, H.** Aryl hydrocarbon receptor-mediated induction of the cytosolic phospholipase A2α gene by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin in mouse hepatoma Hepa-1c1c7 cells. *Journal of Bioscience and Bioengineering,* 108, 277-281, 2009.
81. Fukuda, I., Tsutsui, M., Sakane, I., **Ashida, H.** Suppression of cytochrome P450 1A1 expression induced by 2,3,7,8-tetrachlorodibenzo-*p*- dioxin in mouse hepatoma Hepa-1c1c7 cells treated with serum of (−)-epigallocatechin-3-gallate- and green tea extract-administered rats. *Bioscience, Biotechnology, and Biochemistry,* 73, 1206-1208, 2009.
82. Mukai, R., Satsu, H., Shimizu, M., **Ashida, H.** (2009): Inhibition of p-glycoprotein enhances the suppressive effect of kaempferol on transformation of the aryl hydrocarbon receptor. *Bioscience Biotechnology and Biochmistry*, 73, 1635-1639, 2009.
83. Mukai, R., Shirai, Y., Saito, N., **Ashida, H.** Subcellular localization of flavonol aglycone in hepatocytes visualized by confocal laser scanning fluorescence microscope. *Cytotechnology.* 59, 177-182, 2009.
84. 福田伊津子，小土井理恵，久保麻友子，岡本隆志，藤田剛，**芦田均.** パン酵母β-グルカンのラットにおける脂質異常症予防効果．*生物工学会誌,* 87, 129-134, 2009.
85. 福田伊津子，小土井理恵，久保麻友子，藤嶽暢英，藤田剛，**芦田均.** パン酵母β-グルカン摂取によるラットの盲腸内容物および糞便排泄に及ぼす影響．*生物工学会誌,* 87, 170-174, 2009.
86. Nishiumi, S., Yamamoto, N., Kodoi, R., Fukuda, I., Yoshida, K., **Ashida, H.** Antagonistic and agonistic effects of indigoids on the transformation of an aryl hydrocarbon receptor. *Archives of Biochemistry and Biophysics,* 470, 187-199, 2008.
87. Nishiumi, S., Yabushita, Y., Furuyashiki, T., Fukuda, I., **Ashida, H.** Involvement of SREBPs in 2,3,7,8-tetrachlorodibenzo-*p*-dioxin-induced disruption of lipid metabolism in male guinea pig. *Toxicology and Applied Pharmacology,* 29, 281-289, 2008.
88. Kashiwada, D., Fukuda, I., Yoshida, K., **Ashida, H.** Suppressive effects of propolis extract on cytochrome P4501A1 expression induced by 2,3,7,8,-tetrachlorodibenzo-*p*-dioxin. *Journal of Clinical Nutrition and Biochemistry,* 43, 460-463, 2008.
89. Ohno, T., Tomi, H. Nishiumi, S., Fukuda, I., **Ashida, H.** Effect of chamomile extract on adiposity in mice fed a high-fat diet. *Journal of Clinical Nutrition and Biochemistry,* 43, 243-246, 2008.
90. Nishiumi, S., Sakane, I., Yoshida, K., **Ashida, H.** Isolation and identification of the active compound from molokhia (*Corchorus olitorius* L.) to suppress the transformation of an aryl hydrocarbon receptor. *Journal of Clinical Nutrition and Biochemistry,* 43, 277-280, 2008.
91. Yoshida, K., Yamaguchi, M., Morinaga, T., Kinehara, M., Ikeuchi, M., **Ashida, H.**, Fujita, Y. *myo*-Inositol catabolism in *Bacillus subtilis*. *Journal of Biological Chemistry,* 283, pp. 10415-1024, 2008.
92. Ogawa Y., Saito, Y. Nishio, K., Yoshida, Y., **Ashida, H.**, Niki, E. Induction of adaptive response through up-regulation of celluar glutathione by γ-tocopheryl quinine, but not by α-tocopheryl quinine: acceleration in cysteine availability induced by arylating quinone. *Free Radical Research,* 42, 674-687, 2008.
93. Mukai, R., Fukuda, I., Nishiumi, S., Natsume, M., Osakabe, N., Yoshida, K., **Ashida, H.** Cacao

polyphenol extract suppresses transformation of an aryl hydrocarbon receptor in C57BL/6 mice. *Journal of Agricultural and Food Chemistry,* 56, 10399-10405, 2008.

94. Ueda, M., Nishiumi, S., Nagayasu, H., Fukuda, I., Yoshida, K., **Ashida, H.** Epigallocatechin gallate promotes GLUT4 translocation in skeletal muscle. *Biochemical Biophysical Research Communications,* 377, 286-290, 2008.
95. Kada, S., Yabusaki, M., Kaga, T., **Ashida, H.**, Yoshida, K. Identification of two major ammonia-releasing reactions involved in secondary natto fermentation. *Bioscience, Biotechnology, and Biochemistry,* 72, 1869-1876, 2008.
96. Nakabayashi, H., Hashimoto, T., **Ashida, H.**, Nishiumi, S., Kanazawa, K. Inhibitory effects of caffeine and its metabolites on intracellular lipid accumulation in murine 3T3-L1 adipocytes. *BioFactors,* 34. 293-302, 2008.
97. Kinehara,M., Fukuda,I., Yoshida,K., **Ashida, H.** High-throughput evaluation of aryl hydrocarbon receptor-binding sites selected via chromatin immunoprecipitation-based screening in Hepa-1c1c7 cells stimulated with 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. *Genes and Genetic Systems*, 83, 455-468, 2008.
98. Sasaki, R., Nishimura, N., Hoshino, H., Isa, Y., Kadowaki, M., Ichi, T., Tanaka, A., Nishiumi, S., Fukuda, I., **Ashida, H.**, Horio, F., and Tsuda, T. Cyanidin 3-glucoside ameliorates hyperglycemia and insulin sensitivity due to downregulation of retinol binding protein 4 expression in diabetic mice. *Biochemical Pharmacology,* 74, 1619-1627, 2007.
99. Yap, A., Nishiumi, S., Yoshida, K., **Ashida, H.** Rat L6 myotubes as an in vitro model system to study GLUT4-dependent glucose uptake stimulated by inositol derivatives. *Cytotechnology,* 55, 103–108, 2007.
100. Nishiumi, S., Yoshida, K., **Ashida, H.** Curcumin suppresses the transformation of an aryl hydrocarbon receptor through its phosphorylation. *Archives of Biochemistry and Biophysics,* 466, 267-273, 2007.
101. Fukuda, I., Mukai, R., Kawase, M., Yoshida, K., **Ashida, H.** Interaction between the aryl hydrocarbon receptor and its antagonists, flavonoids. *Biochemical Biophysical Research Communications*, 359, 822-827, 2007.
102. Nishiumi, S., **Ashida, H.** Rapid Preparation of a Plasma Membrane Fraction from Adipocytes and Muscle Cells: Application for Detection of Translocated Glucose Transporter 4 on the Plasma Membrane. *Bioscience Biotechnology and Biochemistry,* 71, 2343-2346, 2007.
103. Hashimoto, T., Ueda, Y., Oi, N., Sakakibara, H., Piao, C., **Ashida, H.**, Goto, M., Kanazawa, K. Effects of combined administration of quercetin, rutin, and extract of white radish sprout rich in kaempferol glycosides on the metabolism in rats. *Bioscience, Biotechnology, and Biochemistry,* 70, 279-281, 2006.
104. Nishiumi, S., Yabushita, Y., Fukuda, I., Mukai, R., Yoshida, K., **Ashida, H.** Molokhia (*Corchorus olitorius* L.) extract suppresses transformation of the aryl hydrocarbon receptor induced by dioxins. *Food and Chemical Toxicology,* 44, 250-260, 2006.
105. Yoshida, K., Yamaguchi, M., Morinaga, T., Ikeuchi, M., Kinehara, M., **Ashida, H.** Genetic modification of *Bacillus subtilis* for production of D-chiro-inositol, an investigational drug candidate for treatment of type 2 diabetes and polycystic ovary syndrome. *Applied Environmental Microbiology,* 72, 1310-1315, 2006.
106. Sakakibara, H., **Ashida, H.**, Fukuda, I., Furuyashiki, T., Sano, T., Nonaka, Y., Hashimoto, T., Kanazawa, K. A frequent drinking of green tea lowers the levels of endogenous oxidative stress in small intestines, erythrocytes and kidneys in rats. *Journal of Clinical Biochemistry and Nutrition,* 39, 32-39, 2006.
107. Fukuda, I., Terashima, S., **Ashida, H.** (+)-Catechin suppresses the inhibition of 3T3-L1 differentiation by 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. *ITE Letters on Batteries, New Technologies & Medicine,* 7, 292-295, 2006.
108. Morinaga, T., Yamaguchi, M., Makino, Y., Nanamiya, H., Takahashi, K., Yoshikawa, H.,

Kawamura, F., **Ashida, H.**, Yoshida, K. Functional myo-inositol catabolic genes of Bacillus subtilis natto are involved in depletion of pinitol in natto (fermented soybean). *Bioscience, Biotechnology, and Biochemistry,* 70, 1913-1920, 2006.

109. Nishiumi, S., Hosokawa, K., Mukai, R., Fukuda, I., Hishida, A., Iida, O., Yoshida, K., **Ashida, H.** Screening of the indigenous plants from Japan for modulating effects on transformation of the aryl hydrocarbon receptor. *Asian Pacific Journal of Cancer Prevention,* 7, 208-220, 2006.
110. Hamada, M., Satsu, H., Natsume, Y., Nishiumi, S., Fukuda, I., **Ashida, H.**, Shimizu, M. TCDD-induced CYP1A1 expression, an index of dioxin toxicity, is suppressed by flavonoids permeating the human intestinal Caco-2 cell monolayers. *Journal of Agricultural and Food Chemistry,* 54, 8891-8898, 2006.
111. Yoshida, K., Kim, W. -S., Kinehara, M., Mukai, R., **Ashida, H.**, Ikeda, H., Fujita, Y., Krishnan, H. B. Identification of a functional 2-keto-*myo*-inositol dehydratase gene of *Sinorhizobium fredii* USDA191 required for myo-inositol utilization. *Bioscience, Biotechnology, and Biochemistry,* 70, 2957-2964, 2006.
112. Fukuda, I., Sakane, I., Yabushita, Y., Sawamura, S., Kanazawa, K., **Ashida, H.** Black tea theaflavins suppress dioxin-induced transformation of the aryl hydrocarbon receptor. *Bioscience, Biotechnology, and Biochemistry,* 69, 883-890, 2005.
113. Mukai, R., Fukuda, I., Hosokawa, K., Nishiumi, S., Kaneko, A., **Ashida, H.** Anthocyans fail to suppress transformation of aryl hydrocarbon receptor induced by dioxin. *Bioscience, Biotechnology, and Biochemistry,* 69, 896-903.
114. Yabushita, Y., Fukuda, I., Nishiumi, S., **Ashida, H.** Suppressive Effects of Commercial Beverages on TCDD-induced Aryl Hydrocarbon Receptor Transformation. *ITE Letters on Batteries, New Technologies & Medicine*, 6, 372-377, 2005.
115. Park, Y.K., Fukuda, I., **Ashida, H.**, Nishiumi, S., Sato, H.H., Pastore, G.M. Supressive effects of ethanolic extracts from propolis and its main botanical origin on dioxin toxicity. *Journal of Agricultural and Food Chemistry,* 53, 10306-10309, 2005.
116. Hashimoto, T., Fukushima. W., Ito, W., Takagi, M., Kanazawa, K., **Ashida, H.** Green tea extract inhibits etoposide-induced apoptosis in rat thymocytes. *ITE Letters on Batteries, New Technology & Medicine,* 5, 73-78, 2004.
117. Fukuda, I., Nishiumi, S., Yabushita, Y., Mukai, R., Kodoi, R., Hashizume, K., Mizuno, M., Hatanaka, Y., **Ashida, H.** A new southwestern chemistry-based ELISA for detection of aryl hydrocarbon receptor transformation: Application to the screening of its receptor agonists and antagonists. *Journal of Immunological Methods*, 287, 187-201, 2004.
118. Shimizu, K., **Ashida, H.**, Matsuura, Y., Kanazawa, K. Antioxidative bioavailability of artepillin C in Brazilian propolis. *Archives of Biochemistry and Biophysics* 424, 181-188, 2004.
119. Park, Y.K., Fukuda, I., **Ashida, H.**, Nishiumi, S., Paredes-Guzman, J., Sato, H.H., Pastore, G.M. Suppression of dioxin mediated aryl hydrocarbon receptor transformation by ethanolic extracts of propolis. *Bioscience Biotechnology and Biochemistry,* 68, 935-938, 2004.
120. Hashimoto, T., Sano, T., Ito, W., Kanazawa, K., Danno, G., **Ashida, H.** 3-Amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) induces apoptosis and necrosis with the activation of different caspases in rat splenocytes. *Bioscience Biotechnology and Biochemistry,* 68, 964-967, 2004.
121. Fukuda, I., Sakane, I., Yabushita, Y., Kodoi, R., Nishiumi, S., Kakuda, T., Sawamura, S., Kanazawa, K., **Ashida, H.** Pigments in green tea leaves (*Camellia sinensis*) suppress transformation of the aryl hydrocarbon receptor induced by dioxin. *Journal of Agricultural Food Chemistry,* 52, 2499-2506, 2004.
122. Shiotani, B., **Ashida, H.** 3-Amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) triggers apoptosis by DNA double-strand breaks caused by inhibition of topoisomerase I. *Carcinogenesis*, 25, 1149-1155, 2004.
123. Furuyashiki, T., Nagayasu, H., Aoki, Y., Bessyo, H., Hashimoto, T., Kanazawa, K., **Ashida, H.**

Tea catechin suppresses adipocyte differentiation accompanied by down-regulation of PPARγ2 and C/EBPα in 3T3-L1 cells. *Bioscience Biotechnology and Biochemistry*, 68, 2353-2359, 2004.

124. Fukuda, I., Sakane, I., Yabushita, Y., Sawamura, S., Kanazawa, K., **Ashida, H.** Black tea extract suppresses transformation of aryl hydrocarbon receptor induced by dioxin. *BioFactors*, 22, 367-369, 2004.
125. Mukai, R., Fukuda, I., Nishiumi, S., Kanazawa, K., **Ashida, H.** Antocyan does not suppress transformation of aryl hydrocarbon receptor induced by dioxin. *BioFactors*, 22, 371-373, 2004.
126. Okamoto, T., Kodoi, R., Nonaka, Y., Fukuda, I., Hashimoto, T., Kanazawa, K., Mizuno, M., **Ashida, H.** Lentinan from shiitake mushroom (*Lentinus edodes*) suppresses expression of cytochrome P450 1A subfamily in the mouse liver. *BioFactors*, 22, 407-409, 2004.
127. **Ashida, H.**, Furuyashiki, T., Nagayasu, H., Bessho, H., Sakakibara, H., Hashimoto, T., Kanazawa, K. Anti-obesity actions of green tea: possible involvements in modulation of the glucose uptake system and suppression of the adipogenesis-related transcription factors. *BioFactors*, 22, 135-140, 2004.
128. Natsume, Y., Satu, H., Hatsugai, Y., Watanabe, H., Sato, R., **Ashida, H.**, Tukey, R., Shimizu. M. Evaluation of intestinal dioxin permeability using human Caco-2 cell monolayers. *Food Science and Technology Research*, 9, 364-366, 2003.
129. Sakakibara, H., Honda, Y., Nakagawa, S., **Ashida, H.**, Kanazawa.K. Simultaneous determination of all polyphenols in vegetables, fruits, and teas. *Journal of Agricultural and Food Chemistry*, 51, 571-581, 2003.
130. Shiotani, B., Nonaka, Y., Kanazawa, K., Danno, G., **Ashida, H**. Evoking cytochrome P450 1A activity interferes with apoptosis induced by 3-amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) in rat hepatocytes under the *ex vivo* system. *Bioscience, Biotechnology, and Biochemistry*, 66, 356-362, 2002.
131. Sun, M., Yamauchi, R., **Ashida, H.**, Kanazawa, K. Subsequent products after antioxidant actions of β-carotene and α-tocopherol have no Salmonella mutagenicity. *Bioscience, Biotechnology, and Biochemistry*, 66, 363-372.
132. Sakakibara, H., **Ashida, H.**, Kanazawa, K. A novel method using 8-hydroperoxy-2'-deoxyguanosine formation for evaluating antioxidative potency. *Free Radical Research*, 36, 307-316, 2002.
133. Arima, H., **Ashida, H.**, Danno, G. Rutin-enhanced antibacterial activities of flavonoids against *Bacillus cereus* and *Salmonella enteritidis*. *Bioscience, Biotechnology, and Biochemistry*, 66, 1009-1014, 2002.

*134. Nakai, R., **Ashida, H.**, Danno, G. Effect of different heating conditions on the extractability of barley hordeins. *Journal of Nutritional Science and Vitaminology*, 48, 149-154, 2002.

135. Hashimoto, T., Furuyashiki, T., Sano, T., Ito, W., Danno, G., Kanazawa, K., **Ashida, H**. 3-Amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) is incorporated into rat splenocytes, thymocytes, and hepatocytes through monoamine transporters and induces apoptosis. *Bioscience, Biotechnology, and Biochemistry*, 66, 1205−1212, 2002.
136. Hashimoto, T., Nonaka, Y., Minato, K., Kawakami, S., Mizuno, M., Fukuda, I., Kanazawa, K., **Ashida, H**. Suppressive effect of polysaccharides from the edible and medicinal mushrooms, *Lentinus edodes* and *Agaricus blazei*, on the expression of cytochrome P450s in mice. *Bioscience, Biotechnology, and Biochemistry*, 66, 1610−1614, 2002.
137. Hatanaka, Y., **Ashida, H.**, Hashizume, K., Fukuda, I., Sano, T., Yamaguchi, Y., Endo, T., Tani, Y., Suzuki, K., Danno, G. Up-regulation of CD13/aminopeptidase N induced by phorbol ester is involved in redox regulation and tumor necrosis factor α production in HL-60 cells. *Inflammation*, 26, 175-181, 2002.
138. Hashizume, K., Hatanaka, Y., Fukuda, I., Sano, T., Yamaguchi, Y., Tani, Y., Danno, G., Suzuki, K., **Ashida, H**. *N*-Acetyl-L-cysteine suppresses constitutive expression of CD11a/LFA-1α protein in myeloid lineage. *Leukemia Research*, 26, 939-944, 2002.
139. Hashimoto, T., Furuyashiki, T., Sano, T., Kihara, K., Fukuda, I., Ito, W., Park, P., Kanazawa, K., Danno, G., **Ashida, H**. Apoptosis in the thymus after intraperitoneal injection of rats with

Trp-P-1. *Environmental and Molecular Mutagenesis*, 40, 175-183, 2002.

140. Shiotani, B., Nonaka, Y., Hashimoto, T., Kihara, K., Kanazawa, K., Danno, G., **Ashida, H**. DNA-damaging carcinogen 3-amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) induces apoptosis via caspase-9 in primary cultured rat hepatocytes. *Carcinogenesis*, 22, 693-700. 2001.
141. Hashimoto, T., **Ashida, H.**, Sano, T., Furuyashiki, T., Hatanaka, Y., Minato, K., Mizuno, M., Nomura, K., Kumatori, A., Kanazawa, K., Danno, G. 3-Amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) induces caspase dependent apoptosis in rat mononuclear cells. *Biochimica et Biophysica Acta (Molecular Cell Research)*, 1539, 44−57, 2001.
142. Mizuno, M., Kawakami, S., Hashimoto, T., **Ashida, H.**, Minato, K. Antitumor polysaccharides from edible medicinal mushrooms and immunomodulating action against murine macrophages. *International Journal of Medicinal Mushrooms*, 3, 355−360, 2001.
143. **Ashida, H.**, Kihara, K., Nonaka, Y., Fukuda, I., Shiotani, B., Hashimoto, T. The heterocyclic amine, 3-amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole induces apoptosis in cocultures of rat parenchymal and nonparenchymal liver cells. *Toxicology and Applied Pharmacology*, 177, 59−67, 2001.
144. Hatanaka, Y., Nakae, D., Mutai, M., Hashizume, K., Kamihara, Y., Kinoshita, N., Tani, Y., Danno, G., Ohta, S., Konishi, Y., **Ashida, H**. Decreased expression of Bcl-x protein during hepatocarcinogenesis induced exogenously and endogenously in rats. *Japanese Journal of Cancer Research*, 92, 1270-1277, 2001.
145. Mizuno, M., Shiomi, Y., Minato, K., Kawakami, S., **Ashida, H.**, Tsuchida, H. Fucogalactan isolated from *Saracodon aspratus* elicits release of tumor necrosis factor-α and nitoric oxide from murin macrophages. *Immunopharmacology*, 46, 113-121, 2000.
146. **Ashida, H.**, Nagy, S., Matsumura, F. 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin (TCDD)-induced changes in activities of nuclear protein kinases and phosphatases affecting DNA binding activity of c-Myc and AP-1 in the livers of guinea pigs. *Biochemical Pharmacology*, 59, 741-751, 2000.

*147. **Ashida, H.**, Hashimoto, T., Tsuji, S., Kanazawa, K., Danno, G. Synergistic effects of food colors on the toxicity of 3-amino-1,4-dimethyl-5*H*- pyrido[4,3-*b*]indole (Trp-P-1) in primary cultured rat hepatocytes. *Journal of Nutritional Science and Vitaminology*, 46, 130-136.

148. **Ashida, H.**, Fukuda, I., Yamashita, T., Kanazawa, K. Flavones and flavonols at dietary levels inhibit a transformation of aryl hydrocarbon receptor induced by dioxin. *FEBS Letters*, 476, 213-217, 2000.
149. Sun, M., Sakakibara, H., **Ashida, H.**, Danno, G., Kanazawa, K. Cytochrome P4501A1-inhibitory action of antimutagenic anthraquinones in medical plants and structure-activity relationship. *Bioscience, Biotechnology, and Biochemistry*, 64, 1373-1378, 2000.
150. **Ashida, H.**, Kihara, K., Shiotani, B., Hashimoto, T., Kanazawa, K., Danno, G. Detection of biomarkers for apoptosis in rat liver after perfusion with 3-amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1). *Bioscience, Biotechnology, and Biochemistry*, 64, 2021-2024, 2000.
151. Sun, M., Sakakibara, H., **Ashida, H.**, Danno, G., Kanazawa, K. Dietary antioxidants fail in protection against oxidative genetic damage in *in vitro* evaluation. *Bioscience, Biotechnology, and Biochemistry*, 64, 2395-2401, 2000.
152. **Ashida, H**. Suppressive effects of flavonoids on dioxin toxicity. *BioFactors*, 12, 201-206, 2000.
153. Hashimoto, T., **Ashida, H.**, Sano, T., Furuyashiki, T., Shiotani, B., Kanazawa, K., Danno, G. 3-Amino-1,4-dimethyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-1) induces apoptosis in rat splenocytes and thymocytes with different mechanisms. *Mutation Research, Fundamental and Molecular Mechanisms of Mutagenesis*, 457, 57−67, 2000.
154. Kanazawa, K., **Ashida, H.**, Danno, G. Comparison in metabolic activity of cytochrome P450 1A1 on heterocyclic amines between human and rat. *Journal of Agricultural and Food Chemistry*, 47, 4956-4961, 1999.
155. Minato, K., Mizuno, M., **Ashida, H.**, Hashimoto, T., Terai, H., Tsuchida, H. Influence of storage conditions on immunomodulating activities in *Lentinus edodes* (Berk.) Sing. (Agaricales s.l., Basidiomycetes). *International Journal of Medicinal Mushrooms*, 1, 243−250, 1999.

*156. **Ashida, H.**, Nakai, R., Kanazawa, K., Danno, G. (1998): Xenobiotic tolerance of primary cultured hepatocytes in rats fed a high-fat and a high-protein diet. *Journal of Nutritional Science*

and Vitaminology, 44, 89-102, 1998.

157. **Ashida, H.**, Matsumura, F. Effect of in vivo administered 2,3,7,8-tetrachlorodibenzo-*p*-dioxin on DNA-binding activities of nuclear transcription factors in liver of guinea pigs. *Journal of Biochemical and Molecular Toxicology*, 12, 191-204, 1998.
158. Kanazawa, K., Yamashita, T., **Ashida, H.**, Danno, G. Antimutagenicity of flavones and flavonols to heterocyclic amines by specific and strong inhibition of the cytochrome P450 1A family. *Bioscience, Biotechnology, and Biochemistry*, 62, 970-977, 1998.
159. Nomura, K., **Ashida, H.**, Uemura, N., Kushibe, S., Ozaki, T., Yoshida, M. Purification and characterization of mannose/glucose-specific lectin from *Castanea crenata*. *Phytochemistry*, 49, 667-673, 1998.
160. Kanazawa, K., **Ashida, H**. Catabolic fate of dietary trilinoleoylglycerol hydroperoxides in rat gastrointestines. *Biochimica et Biophysica Acta*, 1393, 336-348, 1998.
161. Kanazawa, K., **Ashida,H**. Dietary hydroperoxides of linoleic acid decompose to aldehydes in stomach before being absorbed into the body. *Biochimica et Biophysica Acta*, 1393, 349-361, 1998.
162. **Ashida, H.**, Shiotani, B., Adachi, Hashimoto, T., Kanazawa, K., Danno, G. Tryptophan pyrolysis products, Trp-P-1 and Trp-P-2 induce apoptosis in primary cultured rat hepatocytes. *Bioscience, Biotechnology, and Biochemistry*, 62, 2283-2287, 1998.
163. Samejima, K., Kanazawa, K., **Ashida, H.**, Danno, G. Bay laurel contains antimutagenic kaempferyl coumarate acting against dietary carcinogen3-amino-1-methyl-5*H*-pyrido[4,3-*b*]indole (Trp-P-2). *Journal of Agricultural and Food Chemistry*, 46, 4864-4868, 1998.
164. **Ashida, H.**, Koida, K., Kanazawa, K., Danno, G. Angiotensin I-converting enzyme inhibitors from peptic hydrolyzate of cottonseed proteins. *Food Science and Technology International. Tokyo*, 3, 257-258, 1997.
165. **Ashida, H.**, Ohue, K., Kanazawa, K., Danno, G. Effect of dietary lipid peroxidation products on hormonal responces in primary cultured hepatocytes of rats. *Bioscience, Biotechnology and Biochemistry*, 61, 2089-2094, 1997.
166. **Ashida, H.**, Enan, E., Matsumura, F. Protective action of dehydroascorbic acid on the Ah receptor-dependent and receptor-independent induction of lipid peroxidation in adipose tissue of male guinea pig caused by TCDD administration. *Journal of Biochemical Toxicology*, 11, 269-278, 1996.
167. Kanazawa, K., Kawasaki, H., Samejima, K., **Ashida, H.**, Danno, G. Specific desmutagens (antimutagens) in oregano against a dietary carcinogen, Trp-P-2, are galangin and quercetin. *Journal of Agricultural and Food Chemistry*, 43, 404-409, 1995.
168. Samejima, K., Kanazawa, K., **Ashida, H.**, Danno, G. Luteolin: A strong antimutagen against dietary carcinogen, Trp-P-2, in peppermint, sage, and thyme. *Journal of Agricultural and Food Chemistry*, 43, 410-414, 1995.
169. **Ashida, H.**, Kanazawa, K., Danno, G. Hepatic phosphoglucomutase activity as a marker of oxidative stress induced by pro-oxidative drugs. *Bioscience, Biotechnology and Biochemistry*, 58, 55-59, 1994.
170. Danno, G., Kanazawa, K., Toda, M., Mizuno, M., **Ashida, H.**, Kanazawa, K. A mutagen from histidine reacted with nitrite. *Journal of Agricultural and Food Chemistry*, 41, 1090-1093, 1993.
171. Shibata, K., Onodera, M., **Ashida, H.**, Kanazawa, K. Effects of peroxidation products of linoleic acid on tryptophan-nicotinamide metabolism in rats. *Bioscience, Biotechnology and Biochemistry*, 56, 1270-1274, 1992.
172. Kanazawa, K., **Ashida, H**. Target enzymes on hepatic dysfunction caused by dietary products of lipid peroxidation. *Archives of Biochemistry and Biophysics*, 288, 71-78, 1991.
173. **Ashida, H.**, Kanazawa, K., Danno, G. Relationship between hepatic phosphoglucomutase activity and oxidative stress caused by dietary products of lipid peroxidation. *Agricultural Biological Chemistry*, 55, 1765-1770, 1991.
174. Kanazawa, K., **Ashida, H.**, Relationship between oxidative stress and hepatic phosphoglucomutase activity in rats. *International Journal of Tissue Reaction*, 8, 225-231, 1991.
175. Shibata, K., Onodera, M., **Ashida, H.**, Kanazawa, K. Effect of lipid peroxidation products on the catabolic fate of nicotinamide in rats. *Agricultural Biological Chemistry*, 55, 3113-3114, 1991.

*176. Kanazawa, K., **Ashida, H.**, Mizuno, M., Natake, M. Depletion of hepatic coenzyme A derivatives is one of the markers of the toxicity of orally administered secondary autoxidation products of linoleic acid in rat. *Journal of Nutritional Science and Vitaminology*, 35, 11-23, 1989.

*177. Kanazawa, K., **Ashida, H.**, Inoue, N., Natake, M. Succinate dehydrogenase and synthetic pathways of glucose 6-phosphate are also the merkers of the toxicity of orally administered secondary autoxidation products of linoleic acid in rat liver. *Journal of Nutritional Science and Vitaminology*, 35, 25-37, 1989.

178. Kanazawa, K., Inoue, N., **Ashida, H.**, Mizuno, M., Natake, M. What do thiobarbituric acid and hemoglobin-methylene blue tests evaluate in the endogenous lipid peroxidation of rat liver? *Journal of Clinical Biochemistry and Nutrition*, 7, 69-79, 1989.

179. Minamoto, S., Kanazawa, K., **Ashida, H.**, Natake, M. Effect of orally administered 9-oxononanoic acid on lipogenesis in rat liver. *Biochimica et Biophysica Acta*, 958, 199-204, 1988.

180. **Ashida, H.**, Kanazawa, K., Natake, M. Comparison of the effects of orally administered linoleic acid, and its hydroperoxides and secondary autoxidation products on hepatic lipid metabolism in rats. *Agricultural Biological Chemistry*, 52, 2007-2014, 1988.

*181. Kanazawa, K., **Ashida, H.**, Minamoto, S., Danno, G., Natake, M. The effects of orally administered linoleic acid and its autoxidation products on intestinal mucosa in rat. *Journal of Nutritional Science and Vitaminology*, 34, 363-373, 1988.

182. Kanazawa, K., **Ashida, H.**, Natake, M. Autoxidizing process interaction of linoleic acid with casein. *Journal of Food Science*, 52, 475-478, 1987.

183. **Ashida, H.**, Kanazawa, K., Minamoto, S., Danno, G., Natake, M. Effect of orally administered secondary autoxidation products of linoleic acid on carbohydrate metabolism in rat liver. *Archives of Biochemistry and Biophysics*, 259, 114-123, 1987.

184. **Ashida, H.**, Kanazawa, K., Natake, M. Decrease of the NADPH level in rat liver on oral administration of secondary autoxidation products of linoleic acid. *Agricultural Biological Chemistry*, 51, 2951-2957, 1987.

185. Kanazawa, K., **Ashida, H.**, Minamoto, S., Natake, M. The effect of orally administered secondary autoxidation products of linoleic acid on the activity of detoxifying enzymes in the rat liver. *Biochimica et Biophysica Acta*, 879, 36-43, 1986.

186. Minamoto, S., Kanazawa, K., **Ashida, H.**, Danno, G., Natake, M. The induction of lipid peroxidation in rat liver by oral intake of 9-oxononanoic acid contained in autoxidized linoleic acid. *Agricultural Biological Chemistry*, 49, 2747-2751, 1985.

187. Kanazawa, K., Minamoto, S., **Ashida, H.**, Yamada, K., Danno, G., Natake, M. Determination of lipid peroxide contents in rat liver by a new coloration test. *Agricultural Biological Chemistry*, 49, 2799-2801, 1985.

＜総説・解説・総合論文＞

1. **芦田均**，山下陽子．食品成分による耐糖の異常の改善について．*食品加工技術*，35, 31-354, 2015.
2. 山下陽子，**芦田均．**プロシアニジンの新たな生体調節機能．*化学と生物*，52，493-494, 2014.
3. 山下陽子，**芦田均．**フラボノイド類のグルコーストランスポーターを介した血糖値調節作用について．*Foods and Food Ingredients Journal of Japan, FFI* ジャーナル, 218, 158-165, 2013.
4. 山下陽子，山本憲朗，**芦田均．**ポリフェノールによるグルコーストランスポーターの機能調節．ビタミン学会誌ミニレビュー, 86, 163-173, 2012.
5. Yamamoto, N., **Ashida, H.** Methods for evaluation of facilitative glucose transport in cells and their applications. *Food Science and Technology Research*, 18, 439-503, 2012.
6. Nishiumi, S., Miyamoto, S., Kawabata, K., Ohnishi, K., Mukai, R., Murakami, A., **Ashida, H.**, Terao J. Dietary flavonoids as cancer-preventive biofactors. *Frontiers in Bioscience*, 3, 1332-1362, 2011.
7. **芦田均．**抗メタボ・抗肥満と食品機能,*フードスタイル*21, 15, 29-32, 2011.
8. **芦田均．**ポリフェノールのメタボリックシンドローム予防効果の可能性と問題点．*美*

味技術研究会誌 11, 61-65, 2008.

9. Murakami, A., **Ashida, H.**, Terao, J. Multitargeted cancer prevention by quercetin. *Cancer Letter*, 269, 315-325, 2008.
10. 福田伊津子, **芦田均.** ダイオキシン類の生物学的超微量測定法, *検査技術* 13, 15-20, 2008.
11. **Ashida, H.**, Nishiumi, S., Fukuda, I. An update on the dietary ligands of the AhR. *Expert Opinion of Drug Metabtabolism and Toxicology*, 4, 1429-1447, 2008.
12. 寺尾純二, **芦田均.** 機能性ポリフェノール. *化学と生物*, 46, 649-657, 2006.
13. **芦田均**. カテキン：特集に寄せて. *生物工学会誌*, 82, 472, 2004.
14. 福田伊津子, **芦田均**. カテキンのダイオキシン毒性予防作用. *生物工学会誌*, 82, 477-480, 2004.
15. 金沢和樹, **芦田均.** ダイオキシン毒を抑える食品. *New Food Industry*, 43, 39-44, 2001.
16. **芦田均.** ダイオキシンの毒性発現メカニズム. *食品衛生学会誌* 41, J311-J315, 2000.

＜著書＞

1. **芦田均**, 立花宏文. 食品因子による栄養機能制御について,「食品因子による栄養機能制御」, 日本栄養・食糧学会 監修, **芦田均**, 立花宏文, 原博 編集, 建帛社, 序章, pp.1-11, 2015.
2. 山下陽子, **芦田均.** プロシアニジンによる血糖ならびに脂質代謝調節,「食品因子による栄養機能制御」, 日本栄養・食糧学会 監修, **芦田均**, 立花宏文, 原博 編集, 建帛社, 第 12 章, pp. 177-195, 2015.
3. **芦田均**, 立花宏文. 食品因子による栄養制御研究において解決すべき課題と期待すること,「食品因子による栄養機能制御」, 日本栄養・食糧学会 監修, **芦田均**, 立花宏文, 原博 編集, 建帛社, 序章, pp.237-276, 2015.
4. Fukuda, I. **Ashida, H.** Modulation of drug-metabolizing enzymes and transporters by polyphenols as one of the anti-carcinogenic effects. In Polyphenols in Human Health and Diseases: Vol. 2. Eds by Watson, R.R, Preedy, V.R., Zibadi, S., Chapter 86, pp.1127-1135, 2013.
5. Mukai, R., Terao, J., Shirai, Y., Saito, N., **Ashida, H.** Determination of subcellular localization of flavonol in cultured cells by laser scanning. Laser Scanning, Theory and Applications. Intec-Open Access Publisher. pp. 215-232, 2011.
6. Yamamoto, N., Ueda, M., Sato, T., Kawasaki, K., Sawada, K., Kawabata, K., **Ashida, H.** Measurement of glucose uptake in cultured cells. In "Current Protocols in Pharmacology", John Wiley & Sons, Inc. (Wiley Online Library), 12.14.1-12.14.22, 2011.
7. Dang, N, T., Yamaguchi, M., Yoshida, T., Yoshida, K., **Ashida, H.** Insulin-mimetic activity of inositol derivatives depends on phosphorylation of PKCζ/λ in L6 myotubes. In "Animal Cell Technology: Basic & Applied Aspects, Vol. 16", Eds. by, Kamihira, M, Katakura, Y., Ito, A., Springer, pp.327-331, 2010.
8. 川瀬雅也, **芦田均**, 福田伊津子. 熱中性子放射化分析による定量分析,「メタルバイオテクノロジーによる環境保全と資源回収～新元素戦略の新しいキーテクノロジー～」, 日本生物工学会メタルバイオ部会, シーエムシー出版, 東京, pp. 263-270, 2009.
9. 小川陽子, 斎藤芳郎, 西尾敬子, 吉田康一, **芦田均**, 二木悦雄. γ-トコフェリルキノンによる細胞死抑制効果とそのメカニズム解析, ビタミン E 研究会編, ビタミン研究の進歩 XIII, ビタミン E 研究会発行, pp. 67-72, 2009.
10. Yap, A.,Nishiumi, S., Yoshida, K., **Ashida, H.** Inositol derivatives stimulate glucose transport in muscle cells. In "Animal Cell Technology: Basic & Applied Aspects, Vol. 15", Eds. by, Ikura, K., Nagao, M., Ichikawa, A., Teruya, K., and Shirahata, S. Springer, pp. 217-222, 2009.
11. Fukuda, I., **Ashida, H.** Suppressive Effects of Flavonoids on Activation of the Aryl Hydrocarbon Receptor Induced by Dioxins (Chapter 31). In "Functional Food and Health", Eds. by Shibamoto, T., Kanazawa, K., Shahidi, F., and Ho, C.H., ACS symposium series No.993, American Chemical Society. pp. 369-374, 2008.
12. 福田伊津子, **芦田均.** 芳香族炭化水素の毒性発現抑制作用への可能性,「茶の効能と応用開発」, 伊勢村護監修, シーエムシー出版, pp. 316-326, 2006.

13. 芦田均, 金沢和樹. 3.1. 食品の化学・生化学, e. 内分泌攪乱物質と生体応答　鈴木昭憲、荒井綜一編 「農芸化学の事典」 朝倉書店, pp. 367-370, 2003.
14. Fukuda, I., Kaneko, A., Yabushita, Y., Sakane, I., Kakuda, T., Kanazawa, K., Danno, G., **Ashida, H**. Green tea extracts prevent the dioxin toxicity through the suppression of transformation of the aryl hydrocarbon receptor (Chapter 11). In "Symposium Series No. 851/Food Factors in Health Promotion and Disease Prevention" Eds. by Shahidi, F., Ho, C.T., Watanabe, S., Osawa, T., American Chemical Society, Washington D.C. pp. 119-127, 2003.
15. Hashimoto, T., Ito, W., Furuyashiki, T., Sano, T., Minato, K., Mizuno, M., Kanazawa, K., Danno, G., **Ashida, H**. Preventive effects of food components on caspase-8-mediated apoptosis induced by dietary carcinogen, Trp-P-1, in rat mononuclear cells (Chapter 12). In "Symposium Series No. 851/Food Factors in Health Promotion and Disease Prevention" Eds. by Shahidi, F., Ho, C.T., Watanabe, S., Osawa, T., American Chemical Society, Washington D.C. pp. 128-140, 2003.
16. Shiotani, B., **Ashida, H.**, Nonaka, Y., Hashimoto, T., Kanazawa, K., Danno, G. A tryptophan pyrolysis product, 3-amino-1,4-dimethyl-5*H*-pyrido[4,3*b*] indole (Trp-P-1) but not its metabolite induces apoptosis in primary cultured rat hepatocytes (Chapter 13). In "Symposium Series No. 851/Food Factors in Health Promotion and Disease Prevention" Eds. by Shahidi, F., Ho, C.T., Watanabe, S., Osawa, T., American Chemical Society, Washington D.C. pp. 141-151, 2003.
17. Furuyashiki, T., Terashima, S., Nagayasu, H., Kaneko, A., Sakane, I., Kakuda, T., Kanazawa, K., Danno, G., **Ashida, H**. Tea extracts modulate a glucose transport system in 3T3-L1 adipocytes (Chapter 20). In "Symposium Series No. 851/Food Factors in Health Promotion and Disease Prevention" eds. by Shahidi, F., Ho, C.T., Watanabe, S., Osawa, T., American Chemical Society, Washington D.C. pp. 224-234, 2003.
18. **Ashida, H.**, Hashimoto, T., Nonaka, Y., Fukuda, I., Kanazawa, K., Danno, G., Minato, K., Kawakami, S., Mizuno, M. Suppression of cytochrome P4501a subfamily in mouse liver by oral intake of polysacchareides from mushrooms, *Lentinus edodes* and *Agaricus blazei* (Chapter 21). In "Symposium Series No. 851/Food Factors in Health Promotion and Disease Prevention" eds. by Shahidi, F., Ho, C.T., Watanabe, S., Osawa, T., American Chemical Society, Washington D.C. pp. 235-248, 2003.
19. 芦田均. 環境ホルモンの科学 (第 12 章), 村上明, 森光康次郎編 「食と健康―情報のウラを読む―」丸善(株), pp. 257-283, 2002.
20. **Ashida, H.**, Adachi, H., Kanazawa, K., Danno, G. Heterocyclic amines induce apoptosis in hepatocytes (Chapter 10). In "Symposium Series No. 702/Functional Foods for Disease Prevention II: Medical Plants and Other Foods" Eds. by T. Osawa, T. Shibamoto, J. Terao, American Chemical Society, Washington D.C. pp. 88-100, 1998.
21. Kanazawa, K., **Ashida, H.**, Danno, G. Antimutagenic mechanism of flavonoids against a food-deArived carcinogen, Trp-P-2, elucidated with the structure-activity relationships (Chapter 8). In "Symposium Series No. 702/Functional Foods for Disease Prevention II: Medical Plants and Other Foods" Eds. by T. Osawa, T. Shibamoto, and J. Terao, American Chemical Society, Washington D.C. pp. 67-82, 1998.
22. Kanazawa, K., **Ashida, H**. Effect of 9-oxononanoic acid on arachidonate cascade. In "Oxygen Radicals", Eds. by K. Yagi, M. Kondo, E. Niki, T. Yoshikawa, Elsevier Science Publishers B.V., pp. 297-300, 1992.
23. Kanazawa, K., **Ashida, H.**, Inoue, N., Natake, M. Endogenous lipid peroxidation causes specific inactivation of hepatic phosphoglucomutase. In "Medical, Biochemical and Chemical Aspects of Free Radicals" Eds. by O. Hayaishi, E. Niki, M. Kondo, and T. Yoshikawa, Elsevier Science Publishers B.V., pp. 963-966,.1989.

(3) 過去 5 年間の本学会での活動状況
＜学会役員、委員、支部役員＞
平成 26 年　理事就任、現在に至る
平成 26 年　学会活動強化委員会委員、現在に至る
平成 23 年　評議員(平成 18 年就任)から代議員(支部参与)に変更となり、現在に至る
＜大会・支部大会での活動状況＞

平成 28 年　第 70 回日本栄養・食糧学会・行委員（総務委員）、シンポジウム・コーディネーター兼オーガナイザー
平成 27 年　第 54 回日本栄養・食糧学会近畿支部大会・会頭、特別講演座長
同上　ACN2015, Symposium Chairperson, Oral Session Chairperson
平成 26 年　第 68 回日本栄養・食糧学会・シンポジウム・オーガナイザー兼座長、一般講演座長
同上　第 53回日本栄養・食糧学会近畿支部大会・一般講演座長
平成 25 年　第 67 回日本栄養・食糧学会シンポジウム座長、一般講演座長
平成 24 年　第 66 回日本栄養・食糧学会・一般講演座長
同上　第 51 回日本栄養・食糧学会近畿支部大会・一般講演座長
平成 23 年　第 65 回日本栄養・食糧学会・一般講演座長
同上　第 50 回日本栄養・食糧学会近畿支部大会・一般講演座長

（4） 特記事項
平成 26 年　Royal Society of Chemistry (UK) Fellow.
平成 26 年　ネーチャー・インダストリーアワード特別賞
平成 22 年　日本生物工学会論文賞
平成 21 年　日本農芸化学会英文誌（Bioscience, Biotechnology, and Biochemistry）論文賞