

しかしノニルフェノールの雄児生殖器系への影響はみられなかった。また、スチレンモノマー、ダイマーおよびトリマーはラット肝発がん性を示さないことが結論づけられた（福島）。

4) 大豆イソフラボンの生体影響はエストロゲン作用以外にも観察され、種差や性差もみられた。日常大豆食品のみで摂取するレベルであれば、その影響は小さいが、大豆食品以外でも摂取する大豆イソフラボンにも注目して安全性を確認する必要がある（池上）。

5) Wistar 系雌ラットにビスフェノールAあるいはノニルフェノールを飼料に混じ、妊娠、出産、授乳期間を通して投与した。生まれた仔ラットに BHP を投与し甲状腺、肺、食道、肝、胸腺発癌感受性について検索した。その結果、ビスフェノールAあるいはノニルフェノールの暴露が次世代ラットの成長や性成熟の障害、甲状腺機能異常および肺、甲状腺、食道、肝、胸腺の発癌感受性亢進に関与する可能性はなかった（堤）。

6) 妊娠期および授乳期におけるビスフェノールAの慢性曝露は、主に脳の発達過程において重要な期間である器官形成期および神経ネットワークの発達に重要な期間である周産期ならびに授乳期において、特にドーパミン神経系ならびにセロトニン神経系に不可逆的な変性をもたらし、異常行動ならびに不安神経障害の惹起、さらには依存性薬物の精神依存性を増強させる可能性が示唆された（鈴木）。

7) ビスフェノールAは、胎児期の曝露によって、離乳後においても仔脳内のドーパミン動態を変動させていた。このようなビスフェノールAの中樞神経系への影響は、中樞神経細胞の発達分化が活発に行われている時期に曝露を受けることによって生じ、その作用機序

には、神経細胞膜画分に存在する受容体様蛋白(ビスフェノールA受容体)を介した、甲状腺ホルモン作用のかく乱(種々の神経細胞発達・分化作用の異常)が、関与している可能性が強く示唆された(松江)。

8) 胎齢10日目以降ビスフェノールA 2 $\mu\text{g/g}$ of food, 8 $\mu\text{g/g}$ of food を投与した群ではTH陽性黒質神経細胞数が胎齢18日で減少傾向を示した。妊娠全期間から授乳期に至るまでビスフェノールAを投与された雌(3 $\mu\text{g/g}$ of food, 8 $\mu\text{g/g}$ of food)では、生後9週齢で黒質TH陽性神経細胞密度が有意に減少した。さらに生後9週齢雌ではER α 及びER β のmRNA発現亢進が見出された。本研究によって、黒質のドーパミン系神経細胞に対するビスフェノールAの影響が明確に示された(伏木)。

F. 研究発表

1. 論文発表

Iwasaki S, Kato K, Mori T, Takahashi S, Futakuchi M, Shirai T: Development of androgen-independent carcinomas from androgen-dependent preneoplastic lesions in the male accessory sex organs of rats treated with 3,2'-dimethyl-4-aminobiphenyl and testosterone propionate. *Jpn. J. Cancer Res.* 90:23-30, 1999.

Shirai T, Hirose M, Ito N: Medium-term bioassays in rats for rapid detection of the carcinogenic potential of chemicals. In McGregor DB, Rice JM, Venitt S(eds), *The Use of Short- and Medium-term Tests for Carcinogens and Data on Genetic Effects in Carcinogenic Hazard Evaluation*, Vol. IARC Scientific Publications No. 146. Lyon, International Agency for Research on Cancer, 251-272, 1999.

Hagiwara A, Boonyaphiphat P, Tanaka H, Kawabe M, Tamano S, Kaneko H, Matsui M, Hirose M, Ito N, Shirai T: Organ-dependent modifying effects of caffeine, and two naturally occurring antioxidants *atocopherol* and *n-tritriacontane-16,18-dione*, on 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine

(PhIP)-induced mammary and colonic carcinogenesis in female F344 rats. *Jpn. J. Cancer Res.* 90:399-405, 1999.

Hirose M, Hakoi K, Takahashi S, Hoshiya T, Akagi K, Cui L, Saito K, Kaneko H, Shirai T: Sequential morphological and biological changes in the glandular stomach induced by oral administration of catechol to male F344 rats. *Toxicol. Pathol.* 27:448-455, 1999.

Sano M, Hagiwara A, Tamano S, Hasegawa R, Imaida K, Ito N, Shirai T: Dose-dependent induction of carcinomas and glutathione S-transferase placental form negative eosinophilic foci in the rat liver by di(2-ethylhexyl)phthalate after diethylnitrosamine initiation. *J. Toxicol. Sci.* 24:177-186, 1999.

Shirai T, Cui L, Takahashi S, Futakuchi M, Asamoto M, Kato K, Ito N: Carcinogenicity of 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP) in the rat prostate and induction of invasive carcinomas by subsequent treatment with testosterone propionate. *Cancer Lett.* 143:217-221, 1999.

Ikeda Y, Takahashi S, Kimura J, Cho YM, Imaida K, Shirai S, Shirai T: Anophthalmia in litters of female rats treated with the food-derived carcinogen, 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine. *Toxicol. Pathol.* 27:628-631, 1999.

Hirose M, Fukushima S, Imaida K, Ito N, Shirai T: Modifying effects of phytic acid and g-oryzanol on the promotion stage of rat carcinogenesis. *Anticancer Res.* 19:3665-3670, 1999.

Hirose M, Takahashi S, Ogawa K, Futakuchi M, Shirai T: Phenolics: Blocking agents for heterocyclic amine-induced carcinogenesis. *Fd. Chem. Toxic.* 37:985-992, 1999.

Hagiwara A, Miyata E, Tamano S, Sano M, Masuda C, Funae Y, Ito N, Fukushima S, Shirai T: Non-carcinogenicity, but dose-related increase in preneoplastic hepatocellular lesions, in a two-year feeding study of phenobarbital sodium in male F344 rats. *Fd. Chem. Toxic.* 37:869-879, 1999.

Ogawa K, Kimoto N, Asamoto M, Nakanishi M, Takahashi S, Shirai T: Aberrant expression of p27^{Kip1} is associated with malignant transformation of the rat urinary bladder epithelium. *Carcinogenesis* 21:117-121, 2000.

Cui L, Takahashi S, Tada M, Kato K, Yamada Y, Kohri K, Shirai T: Immunohistochemical detection of carcinogen-DNA adducts in normal human prostate tissues transplanted into the subcutis of athymic nude mice: Results with 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP) and 3,2'-dimethyl-4-aminobiphenyl (DMAB) and relation to cytochrome P450s and *N*-acetyltransferase activity. *Jpn. J. Cancer Res.* 91:52-58, 2000.

Imaida K, Ogawa K, Takahashi S, Ito T, Yamaguchi T, Totsuka Y, Wakabayashi K, Tanaka K, Ito N, Shirai T: Delay of DNA-adduct repair and severe toxicity in xeroderma pigmentosum group A gene (XPA) deficient mice treated with 2-amino-1-methyl-6-phenylimidazo [4,5-*b*] pyridine (PhIP). *Cancer Lett.* 150:63-69, 2000.

Yaono M, Tamano S, Mori T, Kato K, Imaida K, Asamoto M, Shirai T: Lobe specific effects of testosterone and estrogen on 3,2'-dimethyl-4-aminobiphenyl-induced rat prostate carcinogenesis. *Cancer Lett.* 150:33-40, 2000.

Shirai T, Imaida K, Ito N: Prostate. In Nagao M, Sugimura T(eds), *Food Born Carcinogenesis*. Chichester, New York, Weinheim, Brisbane, Singapore, Toronto, John Wiley & Sons, Ltd, 270-274, 2000.

Imaida K, Shirai T, Ito N: Degenerative Changes. In Nagao M, Sugimura T(eds), *Food Born Carcinogenesis*. Chichester, New York, Weinheim, Brisbane, Singapore, Toronto, John Wiley & Sons, Ltd, 2000, 275-284.

Takahashi S, Ikeda Y, Kimoto N, Okochi E, Cui L, Nagao M, Ushijima T, Shirai T: Mutation induction by mechanical irritation caused by uracil-induced urolithiasis in Big Blue® rats. *Mutation Res.* 447:275-280, 2000.

Shirai T, Takahashi S, Cui L, Futakuchi M, Kato K, Tamano S, Imaida K: Experimental prostate

- carcinogenesis — rodent models. *Mutation Res.* 462:219-226, 2000.
- Imaida K, Hagiwara A, Yoshino H, Tamano S, Sano M, Futakuchi M, Ogawa K, Asamoto M, Shirai T: Inhibitory effects of low doses of melatonin on induction of preneoplastic liver lesions in a medium-term liver bioassay in F344 rats: relation to the influence of electromagnetic near field exposure. *Cancer Lett.* 155:105-114, 2000.
- Hirose M, Yamaguchi T, Cui L, Kimoto N, Futakuchi M, Kono T, Nishibe S, Shirai T: Effects of arctiin on PhIP-induced mammary, colon and pancreatic carcinogenesis in female Sprague-Dawley rats and MeIQx-induced hepatocarcinogenesis in male F344 rats. *Cancer Lett.* 155:79-88, 2000.
- Kato K, Takahashi S, Cui L, Toda T, Suzuki S, Futakuchi M, Sugiura S, Shirai T: Suppressive effects of dietary genistin and daidzin on rat prostate carcinogenesis. *Jpn. J. Cancer Res.* 91:786-791, 2000.
- Takahashi S, Ikeda Y, Orita S-i, Sakakibara M, Kimoto N, Suzuki S, Imaida K, Shirai T: Enhancing effects of 2-amino-4,5-diphenylthiazole-induced polycystic kidneys on renal carcinogenesis in rats treated with dimethylnitrosamine. *Toxicol. Appl. Pharmacol.* 167:12-17, 2000.
- Akaza H, Tsukamoto S, Morita T, Yamauchi A, Onozawa M, Shimazui T, Ideyama Y, Shirai T: Promoting effects of antiandrogenic agents on rat ventral prostate carcinogenesis induced by 3,2'-dimethyl-4-aminobiphenyl (DMAB). *Prostate Cancer and Prostatic Diseases* 3:115-119, 2000.
- Kawabe M, Cui L, Kimoto N, Sano M, Hirose M, Shirai T: Modifying effects of propolis on MeIQx promotion of rat hepatocarcinogenesis and in a female rat two-stage carcinogenesis model after multiple carcinogen initiation. *Nutrition and Cancer* 37:179-186, 2000.
- Imaida K, Tamano S, Kato K, Ikeda Y, Asamoto M, Takahashi S, Nir Z, Murakoshi M, Nishino H, Shirai T: Lack of chemopreventive effects of lycopene and curcumin on experimental rat prostate carcinogenesis. *Carcinogenesis*, 22: 467-472, 2001.
- Hagiwara A, Miyashita K, Nakanishi T, Sano M, Tamano S, Asai I, Nakamura M, Imaida K, Ito N, Shirai T: Lack of tumor promoting effects of carrageenan on 1,2- dimethylhydrazine- induced colorectal carcinogenesis in male F344 rats. *J. Toxicol. Pathol.*, 14: 37-43, 2001.
- Thamavit W, Pratoomtone P, Kongtim S, Shirai T, Ito N: Inhibition by vitamin E of cholangiocarcinoma induction due to combined nitrite and aminopyrine. *Asian Pac. J. Cancer Prev.*, 2: 69-70, 2001.
- Kimoto N, Hirose M, Futakuchi M, Iwata T, Kasai M, Shirai T: Site-dependent modulating effects of conjugated fatty acids from safflower oil in a rat two-stage carcinogenesis model in female Sprague-Dawley rats. *Cancer Lett.*, 168: 15-21, 2001.
- Hirose M, Hoshiya T, Mizoguchi Y, Nakamura A, Akagi K, Shirai T: Green tea catechins enhance tumor development in the colon without effects in the lung or thyroid after pretreatment with 1,2-dimethylhydrazine or 2,2'-dihydroxy-di-n-propylnitrosamine in male F344 rats. *Cancer Lett.*, 168: 23-29, 2001.
- Hagiwara A, Takesada Y, Tanaka H, Tamano S, Hirose M, Ito N, Shirai T: Dose-dependent induction of glandular stomach preneoplastic and neoplastic lesions in male F344 rats treated with catechol chronically. *Toxicol. Pathol.*, 29: 180-186, 2001.
- Imaida K, Sano M, Tamano S, Asamoto M, Ogawa K, Futakuchi M, Shirai T: Organ dependent enhancement of rat 3,2'-dimethyl-4-aminobiphenyl (DMAB) carcinogenesis by 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP): positive effects on the intestine but not the prostate. *Carcinogenesis*, 22: 1295-1299, 2001.
- Asamoto M, Hokaiwado N, Cho Y.-M., Ikeda Y., Takahashi S., Shirai T: Metastasizing

neuroblastomas from taste buds in rat transgenic for the simian virus 40 large T antigen under control of the probasin gene promoter. Toxic. Pathol., 29: 363-368, 2001.

Hagiwara, A., Miyashita, K., Nakanishi, T., Sano, M., Tamano, S., Kadota, T., Koda, T., Nakamura, M., Imaida, K., Ito, N., Shirai, T.: Pronounced inhibition by a natural anthocyanin, purple corn color, of 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP) associated colorectal carcinogenesis in male F344 rats pretreated with 1,2-dimethylhydrazine. Cancer Lett., 171: 17-25, 2001.

Mori, T., Imaida, K., Tamano, S., Sano, M., Takahashi, S., Asamoto, M., Takeshita, M., Ueda, H., Shirai, T.: Beef tallow, but not perilla or corn oil, promotion of rat prostate and intestinal carcinogenesis by 3,2'-dimethyl-4-aminobiphenyl. Jpn. J. Cancer Res., 92: 1026-1033, 2001.

朝元誠人, 白井智之 : 前立腺発癌への食餌要因の影響. 腎泌予防医誌, 9: 22-25, 2001.

白井智之 内分泌かく乱物質研究の最前線. In: (社)日本化学会 (ed.) 季刊 化学総説, Vol. 50, pp. 15-31. 東京: 学会出版センター, 2001.

渡辺満利、前川昭彦：雌性生殖器、毒性病理組織学、日本毒性病理学会編(編集責任者：前川昭彦)、355-382.アイベック、東京、2000.

Davis, B., Maekawa, A., et al., Female Genital System. International Classification of Rodent Tumours. The Mouse. (Mohr, U., ed.) 211-268. Berlin: Springer, 2001.

Rehm, S., Maekawa, A., et al., Male Genital System. International Classification of Rodent Tumours. The Mouse. (Mohr, U., ed.) 163-210. Berlin: Springer, 2001.

Maekawa, A. et al., Uterine carcinogenesis by chemicals/hormones in rodents (review). J. Toxicol. Pathol., 12: 1-12, 1999.

Katsuda, S., Maekawa, A., et al., Estrogen receptor mRNA in uteri of normal estrous cycling and ovariectomized rats by in situ hybridization. Proc. Soc. Exp. Biol. Med., 221: 207-214, 1999.

Kitamura, T., Maekawa, A., et al., Transplacental administration of diethylstilbestrol (DES) causes lesions in female reproductive organs of Donryu rats, including endometrial neoplasia. Cancer Lett., 141: 219-228, 1999.

Tanoguchi, K., Maekawa, A., et al., K-Ras point mutations in spontaneously occurring endometrial adenocarcinomas in the Donryu rat. Tohoku J. Exp. Med., 189: 87-93, 1999.

Katsuda, S., Maekawa, A., et al., Dose and treatment duration-related effects of *p*-tert-octylphenol on female rats. Reprod. Toxicol., 14: 119-126, 2000.

Nagaoka, T., Maekawa, A., et al., Effects of reproduction on spontaneous development of endometrial adenocarcinomas and mammary tumors in Donryu rats. Jpn. J. Cancer Res., 91: 375-382, 2000.

Yoshida, M., and Maekawa, A., et al., Subcutaneous treatment of *p*-tert-octylphenol exerts estrogenic activity on the female reproductive tract in normal cycling rats of two different strains. Toxicol. Lett., 116: 89-101, 2000.

Katsuda, S., Maekawa, A., et al., Irreversible effects of the reproductive tract of female rats by neonatal exposure to *p*-tert-octylphenol. Toxicol. Appl. Pharmacol., 165: 217-226, 2000.

Aso, S., Maekawa, A., et al., Twenty-eight-day repeated-dose toxicity studies for detection of weak endocrine disrupting effects of nonylphenol and atrazine in female rats. J. Toxicol. Pathol., 13: 13-20, 2000.

長谷川隆一、前川昭彦ら、アルキルフェノールのエストロゲン様作用と生殖器系への影響〔総説〕、日本食品化学学会誌、7: 1-9, 2000

- Takahashi, M., Maekawa, A., et al., Possible mechanisms underlying mammary carcinogenesis in female Wistar rats by nitrofurazone. *Cancer Lett.* 156:177-184, 2000.
- Yamasaki, K., Maekawa, A., et al., Immature rat uterotrophic assay of diethylstilbestrol, ethynyl estradiol and atrazine. *J. Toxicol. Pathol.* 13:145-150, 2000.
- Yoshida, M., Maekawa, A., et al., Effects of neonatal exposure to a high-dose *p*-tert-octylphenol on the male reproductive tract in rats. *Toxicol. Lett.* 121:21-33, 2001.
- Yoshida, M., Maekawa, A., et al., Effects of endocrine disrupting chemicals with estrogenic activity on the female reproductive system in rats. *J. Toxicol. Pathol.* 14:83-86, 2001.
- Takahashi, M., Maekawa, A., et al., Time-dependent promotion activity of 17 β -estradiol on uterine carcinogenesis in mice initiated with N-ethyl-N-nitrosourea. *Cancer Lett.* 165:123-130, 2001.
- Watanabe, T., Maekawa, A., et al., Spontaneous tumors in the uterus, testis and other organs of F1 hybrids between Donryu and F344 rats. *J. Toxicol. Pathol.* 14:99-104, 2001.
- Katsuda, S., Maekawa, A., et al., Uterine adenocarcinoma in N-ethyl-N'-nitro-N-nitrosoguanidine-treated rats with high-dose exposure to *p*-tert-octylphenol during adulthood. *Jpn. J. Cancer Res.* 93:1-9, 2002.
- Shimomoto, T., Maekawa, A., et al., Sebaceous gland metaplasia in a mammary fibroadenoma developing in a female Donryu rat. *J. Toxicol. Pathol.* 15: in press, 2002.
- Yoshida, M., Maekawa, A., et al., Neonatal exposure to *p*-tert-octylphenol causes abnormal expression of estrogen receptor α and subsequent alteration of cell proliferating activity in the developing rat uteri. *Toxicol. Pathol.* 30: in press, 2002.
- Yamamoto, S., Romanenko, A., Wei, M., Masuda, C., Zaparin, W., Vinnichenko, W., Vozianov, A., Lee, C.C.R., Morimura, K., Wanibuchi, H., Tada, M. and Fukushima, S.: Specific *p53* gene mutations in urinary bladder epithelium after the Chernobyl accident. *Cancer Res.* 59, 3606-3609, 1999.
- Chen, T., Na, Y., Wanibuchi, H., Yamamoto, S., Lee, C.C.R. and Fukushima, S.: Loss of heterozygosity in (Lewis $\times$ F344)F1 rat urinary bladder tumors induced with N-butyl-N-(4-hydroxybutyl)nitrosamine followed by dimethylarsinic acid or sodium L-ascorbate. *Jpn. J. Cancer Res.* 90, 818-823, 1999.
- Lee, C.C.R., Ichihara, T., Yamamoto, S., Wanibuchi, H., Sugimura, K., Wada, S., Kishimoto, T. and Fukushima, S.: Reduced expression of the CDK inhibitor p27KIP1 in rat two-stage bladder carcinogenesis and its association with expression profiles of p21WAF1/Cip1 and p53. *Carcinogenesis* 20, 1697-1708, 1999.
- Wei, M., Wanibuchi, H., Yamamoto, S., Li, W. and Fukushima, S.: Urinary bladder carcinogenicity of dimethylarsinic acid in male F344 rats. *Carcinogenesis* 20, 1873-1876, 1999.
- Fukushima, S.: Low-dose carcinogenicity of a heterocyclic amine, 2-amino-3, 8-dimethylimidazo [4,5-f]quinoxaline: relevance to risk assessment. *Cancer Lett.* 143, 157-159, 1999.
- Chen, T., Na, Y., Wanibuchi, H., Yamamoto, S., Lee, C.C.R. and Fukushima, S.: Differences of promoting activity and loss of heterozygosity between dimethylarsinic acid and sodium L-ascorbate in F1 rat urinary bladder carcinogenesis. In: *Arsenic exposure and health effects.* (eds.) Chappell, W.R., Abernathy, C.O., Calderon, R.L., pp.263-266, 1999.
- Sukata, T., Ozaki, K., Uwagawa, S., Seki, T., Wanibuchi, H., Yamamoto, S., Okuno, Y. and Fukushima, S.: Organ-specific, carcinogen-induced increases in cell proliferation in *p53*-deficient mice. *Cancer Res.* 60, 74-79, 2000.

- Vijayaraghavan, M., Wanibuchi, H., Yamamoto, S., Hakoi, K., Nakae, D., Konishi, Y. and Fukushima, S.: Lack of promoting potential of dimethylarsinic acid in the kidney of male NCI-Black reiter rats. *J. Toxicol. Pathol.*, 13, 87-91, 2000.
- Morikawa, T., Wanibuchi, H., Morimura, K., Ogawa, M. and Fukushima, S.: Promotion of skin carcinogenesis by dimethylarsinic acid in *keratin (K6) / ODC* transgenic mice. *Jpn. J. Cancer Res.*, 91, 579-581, 2000.
- Masuda, C., Wanibuchi, H., Otori, K., Wei, M., Yamamoto, S., Hiroi, T., Imaoka, S., Funae, Y. and Fukushima, S.: Presence of a no-observed effect level for enhancing effects of development of the α -isomer of benzene hexachloride (α -BHC) on diethylnitrosamine-initiated hepatic foci in rats. *Cancer Lett.*, 163, 179-185, 2001.
- Vijayaraghavan, M., Wanibuchi, H., Karim, R., Yamamoto, S., Masuda, C., Nakae, D., Konishi, Y. and Fukushima, S.: Dimethylarsinic acid induces 8-hydroxy-2'-deoxyguanosine formation in the kidney of NCI-Black-Reiter rats. *Cancer Lett.*, 165, 11-17, 2001.
- Yoshida, K., Kuroda, K., Inoue, Y., Chen, H., Wanibuchi, H., Fukushima, S. and Endo, G.: Metabolites of arsenobetaine in rats: does decomposition of arsenobetaine occur in mammals?+ *Applied Organometallic Chem.*, 15, 271-276, 2001.
- Yoshida, K., Kuroda, K., Inoue, Y., Chen, H., Date, Y., Wanibuchi, H., Fukushima, S. and Endo, G.: Metabolites of dimethylarsinic acid in rats: production of unidentified metabolites in vivo. *Applied Organometallic Chem.*, 15, 539-547, 2001.
- Kuroda, K., Yoshida, K., Yasukawa, A., Wanibuchi, H., Fukushima, S. and Endo, G.: Enteric bacteria may play a role in mammalian arsenic metabolism. *Applied Organometallic Chem.*, 15, 548-552, 2001.
- Fukushima, S., Wanibuchi, H., Wei, M., Salim, E.I. and Morimura, K.: Carcinogenicity of dimethylarsinic acid, an inorganic arsenic metabolite, in rodents. In: *Surgical pathology update 2001, 18th European congress of pathology*, (eds.) Hauptmann, S., Dietel, M., Sobrinho-Simões, M., ABW Wissenschaftsverlag, Berlin, Germany, pp. 480-483, 2001.
- Seike N., Wanibuchi, H., Morimura, K., Nishikawa, T., Kishida, H., Nakae, D., Hirata, K. and Fukushima, S.: Lack of promoting effect due to oral administration of dimethylarsinic acid on rat lung carcinogenesis initiated with *N*-bis(2-hydroxypropyl)nitrosamine. *Cancer Lett.*, 175, 113-119, 2002.
- Sukata, T., Uwagawa, S., Ozaki, K., Ogawa, M., Nishikawa, T., Iwai, S., Kinoshita, A., Wanibuchi, H., Imaoka, S., Funae, Y., Okuno, Y. and Fukushima, S.: Detailed low dose study of 1, 1-bis(*p*-chlorophenyl)-2,2,2-trichloroethane carcinogenesis suggests the possibility of a hormetic effect. *Int. J. Cancer* 2002 inpress.
- Nishikawa, T., Wanibuchi, H., Ogawa, M., Kinoshita, A., Morimura, K., Hiroi, T., Funae, Y., Kishida, H., Nakae, D. and Fukushima, S.: Promoting effects of monomethylarsonic acid, dimethylarsinic acid and trimethylarsine oxide on induction of rat liver preneoplastic glutathione S-transferase placental form positive foci; A possible reactive oxygen species mechanism. *Int. J. Cancer* 2002 inpress.
- Y.Ishimi, C.Miyaura, M.Omura, Y.Sato, Y.Uchiyama, M.Ito, X.Wang, T.Suda and S.Ikegami: Selective effects of genistein, a soybean isoflavone, on B-Lymphopoiesis and bone loss caused by estrogen deficiency, *Endocrinology*, 140: 1893-1900, 1999.
- Y.Ishimi, N.Arai, X.Wang, J.Wu, K.Umegaki, C.Miyaura, and S.Ikegami: Difference in effective dosage of genistein on bone and uterus in Ovariectomized mice, *Biochem.Biophys.Research Comm.*, 274: 697-701, 2000.

- Takashima Y., Tsutsumi M., Sasaki Y., Tsujiuchi T., Kusuoka O., Konishi Y. Lack of bisphenol A in maternal rats or treatment on response of their offspring to N-nitrosobis(2-hydroxypropyl)amine. *J. Toxicol. Pathol.* 13, 87-98, 2001.
- Suzuki T, Kato H, Tsuda M, Suzuki H and Misawa M: Effect of non-competitive NMDA receptor antagonist ifenprodil on morphine-induced place preference in mice. *Life Sci.* 64 (12), PL151-156, 1999
- Suzuki T, Ise Y and Misawa M: Mecamylamine-precipitated nicotine-withdrawal aversion in Lewis and Fischer-344 inbred rat strains. *Eur. J. Pharmacol.* 369, 159-162, 1999
- Suzuki T, Aoki T, Kato H, Yamazaki M and Misawa M: Effects of the 5-HT₃ receptor antagonist ondansetron on the ketamine- and dizocilpine-induced place preferences in mice. *Eur. J. Pharmacol.* 385, 99-102, 1999
- Narita M, Aoki T and Suzuki T: Molecular evidence for the involvement of NR2B subunit containing N-methyl-D-aspartate receptors in the development of morphine-induced place preference. *Neuroscience* 101, 601-606, 2000
- 成田 年、青木 健、鈴木 勉: モルヒネ依存およびその報酬効果の形成機序—NMDA 受容体サブユニットの関与— *日薬理誌* 117, 13-19, 2001
- 成田 年、鈴木 勉: モルヒネ依存の分子機構 *脳の科学* 22, 417-425, 2000
- 成田 年、尾崎 寛、鈴木 勉: 精神依存と耐性の分子機構: オピオイドを中心に *脳* 21 4, 9-18, 2001
- Narita M, Funada M and Suzuki T: Regulations of opioid dependence by opioid receptor types. *Pharmacology and Therapeutics* 89, 1-15, 2000
- 成田 年、瀧本 淳、相馬 仁、矢島義識、水尾圭祐、黒木由夫、鈴木 勉: Morphine 誘発自発運動促進作用に対する逆耐性形成時の μ -opioid 受容体機能変化 *日本神経薬理誌* 21, 55-61, 2001
- Suzuki T, Kishimoto Y, Ozaki S and Narita M: Mechanism of opioid dependence and interaction between opioid receptors. *Eur J Pain* 5, 63-65, 2001
- 成田 年、鈴木 勉: オピオイド受容体と薬物依存 -モルヒネ依存の分子機構- 別冊・医学のあゆみ, 7 回膜貫通型受容体研究の新展開 -ポストゲノム時代の受容体研究のゆくえ, 199-205, 2001
- Narita M, Mizuo, Shibasaki M, Narita M and Suzuki T: Up-regulation of the Gq/11₁ protein and protein kinase C during the development of sensitization to morphine-induced hyperlocomotion. *Neuroscience*, In press
- Narita M, Soma M, Tamaki H, Narita M and Suzuki T: Intensification of the development of ethanol dependence in mice lacking dopamine D₃ receptor. *Neurosci Lett*, In press
- Hashizume T, Imaoka S, Mise M, Terauchi Y, Fujii T, Miyazaki H, Kamataki T, Funae Y.: Involvement of CYP2J2 and CYP4F12 in the metabolism of ebastine in human intestinal microsomes. *J. Pharmacol. Exp. Ther.* 300, 298-304, 2002
- Minamiyama Y, Imaoka S, Takemura S, Okada S, Inoue M, Funae Y.: Escape from tolerance of organic nitrate by induction of cytochrome P450. *Free Radic. Biol. Med.* 31, 1498-1508, 2001
- Hiroi T, Kishimoto W, Chow T, Imaoka S, Igarashi T, Funae Y.: Progesterone oxidation by cytochrome P450 2D isoforms in the brain. *Endocrinology.* 142, 3901-3908, 2001
- Imaoka S, Hayashi K, Hiroi T, Yabusaki Y, Kamataki T, Funae Y.: A transgenic mouse expressing human CYP4B1 in the liver. *Biochem. Biophys. Res. Commun.* 284, 757-762, 2001
- Hashizume T, Imaoka S, Hiroi T, Terauchi Y, Fujii

- T, Miyazaki H, Kamataki T, Funae Y.: cDNA cloning and expression of a novel cytochrome p450 (cyp4f12) from human small intestine. *Biochem. Biophys. Res. Commun.* 280, 1135-1141, 2001
- Imaoka S, Yoneda Y, Sugimoto T, Hiroi T, Yamamoto K, Nakatani T, Funae Y.: CYP4B1 is a possible risk factor for bladder cancer in humans. *Biochem. Biophys. Res. Commun.* 277, 776-780, 2000
- Nakamoto T, Hase I, Imaoka S, Hiroi T, Oda Y, Asada A, Funae Y.: Quantitative RT-PCR for CYP3A4 mRNA in human peripheral lymphocytes: induction of CYP3A4 in lymphocytes and in liver by rifampicin. *Pharmacogenetics.* 10, 571-575, 2000
- Hase I, Imaoka S, Oda Y, Hiroi T, Nakamoto T, Asada A, Funae Y.: Area under the plasma concentration-time curve of inorganic fluoride following sevoflurane anesthesia correlates with CYP2E1 mRNA level in mononuclear cells. *Anesthesiology.* 92, 1661-1666, 2000
- Chow T, Hiroi T, Imaoka S, Chiba K, Funae Y.: Isoform-selective metabolism of mianserin by cytochrome P-450 2D. *Drug Metab. Dispos.* 27, 1200-1204, 1999
- Kanemura Y, Hiraga S, Arita N, Ohnishi T, Izumoto S, Mori K, Matsumura H, Yamasaki M, Fushiki S, Yoshimine T. Isolation and expression analysis of a novel human homologue of the *Drosophila glial cells missing (gcm)* gene. *FEBS Lett* 1999; 442; 151-156.
- Nishizawa Y, Yamamoto T, Tanigaki Y, Kasugai T, Mano M, Ishiguro S, Fushiki S, Poirier LA, Nishizawa Y. Methylcobalamin decreases mRNA levels of androgen-induced growth factor in androgen-dependent Shionogi carcinoma 115 cells. *Nutr Cancer* 1999; 35; 195-201.
- Mori T, Iwai M, Harada Y, Tanaka S, Muramatsu A, Okanoue T, Kashima K, Fushiki S. Parenchymal cells proliferate and differentiate in an organotypic slice culture of the neonatal liver *Anat Embryol* 1999; 199; 319-327.
- Hirai K, Yoshioka H, Kihara M, Hasegawa K, Sakamoto T, Sawada T, Fushiki S. Inhibiting neuronal migration by blocking NMDA receptors in the embryonic rat cerebral cortex: a tissue culture study. *Brain Res Dev. Brain Res* 1999; 114; 63-67.
- Shimotake T, Inoue K, Tomiyama H, Iwai N, Fushiki S. Cell proliferation and apoptosis of enteric ganglia in neonates showing functional bowel obstruction. *Surg Childh Intern* 1999; 7; 65-68.
- Nishizawa Y, Amakata Y, Fushiki S, Nagano F, Yoshioka F, Nosaka S, Nishizawa Y Improvement of an impaired chemiluminescence response to formyl-methionyl-leucyl-phenylalanine in neutrophils from patients with non insulin dependent diabetes mellitus by recombinant human granulocyte-colony stimulating factor. *In Vivo* 1999; 13; 319-325.
- Shiga K, Fukuyama R, Kimura S, Nakajima K, Fushiki S Mutation of the sterol 27-hydroxylase gene (CYP27) results in truncation of mRNA expressed in leucocytes in a Japanese family with cerebrotendinous xanthomatosis. *J. Neurol Neurosurg Psychiatry* 1999; 67; 675-677.
- orimoto S, Sasaki S, Itoh H, Nakata T, Takeda K, Nakagawa M, Furuya S, Naruse S, Fukuyama R, Fushiki S. Sympathetic activation and contribution of genetic factors in hypertension with neurovascular compression of the rostral ventrolateral medulla. *J Hypertens* 1999; 17; 1577-1582.
- Yuh I, Yaoi T, Watanabe S, Okajima S, Hirasawa Y, Fushiki S. Up-regulated uridine kinase gene identified by RLCS in the ventral horn after crush injury to rat sciatic nerves. *Biochem Biophys Res Commun* 1999; 266; 104-109.
- Hirai K, Yoshioka H, Kihara M, Hasegawa K, Sakamoto T, Sawada T, Fushiki S. Effects of

- ethanol on neuronal migration and neural cell adhesion molecules in the embryonic rat cerebral cortex: a tissue culture study. *Brain Res Dev. Brain Res* 1999; 118; 205-210.
- Matsushita H, Takeuchi Y, Kosaka K, Fushiki S, Kawata M, Sawada T. Changes in serotonergic neurons in the brain of pyridoxamine-induced acute thiamine-deficient mice. *Acta Neuropathol* 1999; 98; 614-621.
- Kitawaki J, Kusuki I, Koshiba H, Tsukamoto K, Fushiki S, Honjo H. Detection of aromatase cytochrome P450 in endometrial biopsy specimens as a diagnostic test for endometriosis. *Fertil Steril* 1999; 72; 1100-1106.
- Fukuyama R, Mizuno T, Mori S, Yanagisawa K, Nakajima K, Fushiki S. Age-dependent decline in the apolipoprotein E level in cerebrospinal fluid from control subjects, and its increase in cerebrospinal fluid from patients with Alzheimer's disease. *Eur Neurol* 2000; 43; 161-169.
- Fukuyama R, Mizuno T, Mizuno T, Mori S, Nakajima K, Fushiki S, Yanagisawa K. Age-dependent changes in the levels of A β 40 and A β 42 in cerebrospinal fluid from control subjects, and a decrease in the ratio of A β 42 to A β 40 level in cerebrospinal fluid from Alzheimer's disease patients. *Eur Neurol* 2000; 43; 155-160.
- Tamai M, Okajima S, Fushiki S, Hirasawa Y. Quantitative analysis of neural distribution in human coracoacromial ligaments. *Clin Orthop* 2000; 373; 125-134.
- Wei YP, Kita M, Shinmura K, Yan XQ, Fukuyama R, Fushiki S, Imanishi J. Expression of IFN- γ in cerebrovascular endothelial cells from aged mice. *J Interferon Cytokine Res* 2000; 20; 403-409.
- Arai Y, Kubo T, Fushiki S, Mazda O, Nakai H, Iwaki Y, Imanishi J, Hirasawa Y. Gene delivery to human chondrocytes by an adeno associated virus vector. *J Rheumatol* 2000; 27; 979-982.
- Tsutsumi Y, Fushiki S. Comparison of cell kinetics between the boundary and the interboundary areas during hindbrain segmentation in the chick embryo. *Acta Histochem Cytochem* 2000; 33; 141-147.
- Inaba M, Fushiki S, Yaoi T, Iwata T, Kamoi K, Okihara K, Ukimura O, Kawauchi A, Miyashita H, Kojima M, Miki T. Changes in extracellular matrix components of bladder detrusor in relation to bladder hypertrophy and compliance in patients with benign prostatic hyperplasia. *Acta Histochem Cytochem* 2000; 33; 131-139.
- Matsushita H, Takeuchi Y, Kosaka K, Fushiki S, Kawata M, Sawada T. Changes in nitric oxide synthase-containing neurons in the brain of thiamine-deficient mice. *Acta Histochem Cytochem* 2000; 33; 67-72.
- Fukuyama R, Ohta M, Ohta K, Saiwaki T, Fushiki S, Awaya A. A synthesized pyrimidine compound, MS818, promotes walking function recovery from crush injury of the sciatic nerve through its indirect stimulation of Schwann cells. *Rest Neurol Neurosci* 2000; 17; 9-16.
- Morimoto S, Sasaki S, Miki S, Kawa T, Nakamura K, Itoh H, Nakata T, Takeda K, Nakagawa M, Fushiki S. Nitric oxide is an excitatory modulator in the rostral ventrolateral medulla in rats. *Am J Hypertens* 2000; 13; 1125-1134.
- Kitaya K, Yasuda J, Yagi I, Tada Y, Fushiki S, Honjo H. IL-15 expression at human endometrium and decidua. *Biol Reprod* 2000; 63; 683-687.
- Shiga K, Fushiki S. Proliferative capacity persists most tenaciously in the murine proximal rostral migratory stream. *Acta Histochem Cytochem* 2000; 33; 275-279.
- Saiwaki T, Shiga K, Fukuyama R, Tsutsumi Y, Fushiki S. A unique junctional palindromic sequence in mitochondrial DNA from a patient with progressive external ophthalmoplegia. *J Clin Pathol: Mol Pathol* 2000; 53; 333-335.

Tomiyasu K, Oda Y, Nomura M, Satoh E, Fushiki S, Imanishi J, Kondo M, Mazda O. Direct intracardiac transfer of β 2-adrenergic receptor gene augments cardiac output in cardiomyopathic hamsters. *Gene Ther* 2000; 7: 2087-2093.

伏木信次. 脳形成障害の分子病態, 小児の脳神経 2001; 26; 95-101.

Hinoue A, Fushiki S, Nishimura Y, Shiota K. In utero exposure to brief hyperthermia interferes with the production and migration of neocortical neurons and induces apoptotic neuronal death in the fetal mouse brain. *Brain Res Dev Brain Res* 2001; 132: 59-67.

Cui FD, Kishida T, Ohashi S, Asada H, Yasutomi K, Satoh E, Kubo T, Fushiki S, Imanishi J, Mazda O. Highly efficient gene transfer into murine liver achieved by intravenous administration of naked Epstein-Barr virus (EBV)-based plasmid vectors. *Gene Ther* 2001; 8: 1508-1513.

Akita K, Fushiki S, Fujimoto T, Inoue M, Oguri K, Okayama M, Yamashina I, Nakada H. Developmental expression of a unique carbohydrate antigen, Tn antigen, in mouse central nervous tissue. *J Neurosci Res* 2001; 65: 595-603.

Shiraishi J, Tatsumi T, Keira N, Akashi K, Mano A, Yamanaka S, Matoba S, Asayama J, Yaoi T, Fushiki S, Fliss H, Nakagawa M. Important role of energy-dependent mitochondrial pathways in cultured rat cardiac myocyte apoptosis. *Am J Physiol Heart Circ Physiol* 2001; 281: H1637-H1647.

Fukuyama R, Izumoto T, Fushiki S. The cerebrospinal fluid level of glial fibrillary acidic protein is increased in cerebrospinal fluid from Alzheimer's disease patients and correlates with severity of dementia. *Eur Neurol* 2001; 46: 35-38.

Kitaya K, Yasuda J, Fushiki S, Honjo H. Localization of interferon regulatory factor (IRF)-1 in human endometrium throughout the menstrual cycle. *Fertil Steril* 2001; 75: 992-996.

Kanemura Y, Mori K, Sakakibara S, Fujikawa H, Hayashi H, Nakano A, Matsumoto T, Tamura K, Imai T, Ohnishi T, Fushiki S, Nakamura Y, Yamasaki M, Okano H, Arita N. Musashi 1, an evolutionarily conserved neural RNA-binding protein, is a versatile marker of human glioma cells in determining their cellular origin, malignancy, and proliferative activity. *Differentiation* 2001; 68: 141-152.

Nishizawa Y, Goto HG, Tanigaki Y, Fushiki S, Nishizawa Y. Induction of apoptosis in an androgen-dependent mouse mammary carcinoma cell line by methylcobalamin. *Anticancer Res* 2001; 21: 1107-1110.

Akita K, Fushiki S, Fujimoto T, Munesue S, Inoue M, Oguri K, Okayama M, Yamashina I, Nakada H. Identification of the core protein carrying the Tn antigen in mouse brain: specific expression on syndecan-3. *Cell Struct Funct* 2001; 26: 271-278.

Toba H, Fukuyama R, Sasaki M, Shiga K, Ishibashi S, Fushiki S. A Japanese patient with cerebrotendinous xanthomatosis has different mutations within two functional domains of CYP27. *Clin Genet* 2002; 61: 77-78.

2. 学会発表

朝元誠人、外岩戸尚美、高橋智、曹永晩、池田佳久、今井田克己、白井智之：前立腺癌トランスジェニックラットモデルーテストステロン投与および去勢の影響、第16回日本毒性病理学会、2000年1月26日、岐阜。

竹下 文隆、小川久美子、朝元誠人、今井田克己、二口 充、高木功子、白井智之：Differential Display 法を用いたラット肝細胞癌肺転移関連遺伝子の検索、第16回日本毒性病理学会、2000年1月26日、岐阜。

今井田克己、白井智之：二段階発がんモデル、第16回日本毒性病理学会、2000年1月27日、岐阜。

竹下 文隆、小川久美子、今井田克己、朝元誠人、加藤浩司、高橋智、白井智之：PhIP 誘発ラット大腸および乳腺腫瘍発生に対する caffeine の臓器特異性修飾作用の機構、第17

回日本毒性病理学会、2001 年 1 月 25 日、淡路。

葛谷和也、朝元誠人、二口 充、今井田克己、杉浦諭、小川久美子、白井智之：イソフラボンを豊富に含む大豆胚芽熱水抽出物の多臓器発がん修飾効果、第 17 回日本毒性病理学会、2001 年 1 月 25 日、淡路。

曹永晩、高橋智、外岩戸尚美、鈴木周五、今井田克己、朝元誠人、白井智之：Probasin 遺伝子プロモーター/SV40T 抗原発現遺伝子導入ラットにおける前立腺癌の経時的検討、第 17 回日本毒性病理学会、2001 年 1 月 25 日、淡路。

吉野裕子、河部真弓、市原敏夫、宮下嘉代子、佐野真士、萩原昭裕、今井田克己、白井智之：ビスフェノール A の妊娠期・授乳期曝露による児の雄性生殖器への影響、第 17 回日本毒性病理学会、2001 年 1 月 26 日、淡路。

曹永晩、高橋智、池田佳久、稲熊真悟、小川久美子、今井田克己、白井智之：ラットにおける PhIP 経胎盤・経乳汁曝露による前立腺及び大腸発がんリスクに対する影響、第 60 回日本癌学会総会、2001 年 9 月 26 日、横浜。

朝元誠人、外岩戸尚美、今井田克己、小川久美子、二口 充、彦坂 敦也、竹下 文隆、白井智之：肝細胞間連絡能低下を示すコネクション 32 ドミナントネガティブ変異トランスジェニックラットの肝発癌高感受性、第 60 回日本癌学会総会、2001 年 9 月 26 日、横浜。

小川久美子、杉浦諭、竹下 文隆、朝元誠人、外岩戸尚美、広瀬雅雄、白井智之：Phenylethyl isothiocyanate (PEITC) 誘発ラット膀胱腫瘍における p53 変異、第 60 回日本癌学会総会、2001 年 9 月 27 日、横浜。

外岩戸尚美、朝元誠人、曹永晩、鈴木周五、小川久美子、高橋智、今井田克己、白井智之：コネクション 32 ドミナントネガティブ変異トランスジェニックラットの作成、第 60 回日本癌学会総会、2001 年 9 月 27 日、横浜。

竹下文隆、小川久美子、朝元誠人、高橋智、鈴木周五、杉浦諭、白井智之、PhIP 誘発ラット大腸および乳腺腫瘍発生に対する caffeine の

臓器特異性修飾作用の機序、第 60 回日本癌学会総会、2001 年 9 月、横浜。

二口充、朝元誠人、今井田克己、高橋智、彦坂敦也、曹永晩、加藤俊男、白井智之、PhIP ラット前立腺癌における PIN から Carcinoma への進展に関わる因子の追究、第 60 回日本癌学会総会、2001 年 9 月、横浜。

朝元誠人、外岩戸尚美、曹永晩、白井智之：トランスジェニックを用いた前立腺および肝発がん研究、第 18 回日本毒性病理学会、2002 年 1 月 24 日、東京。

竹下 文隆、小川久美子、今井田克己、二口充、白井智之：DMAB ラット前立腺発がんに対する Nonylphenol と Genistein の影響、第 18 回日本毒性病理学会、2002 年 1 月 24 日、東京。

吉野裕子、二口充、佐野真士、萩原昭裕、玉野静光、白井智之：転移能を獲得した肝細胞癌の経時的変化－肝癌自然肺転移モデルを利用して－、第 18 回日本毒性病理学会、2002 年 1 月 24 日、東京。

曹永晩、朝元誠人、鈴木周五、外岩戸尚美、高橋智、白井智之：遺伝子プロモーター/SV40T 抗原発現遺伝子導入ラットにおけるエストロゲン投与による前立腺癌病変の検討、第 18 回日本毒性病理学会、2002 年 1 月 25 日、東京。

麻生 直、前川昭彦ら、28 日反復投与によるノニルフェノールおよびアトラジンのラット雌性生殖器系に対する影響、第 26 回日本トキシコロジー学会、ワークショップ、1999 年 7 月、札幌。

勝田真一、前川昭彦ら、*p-tert-Octylpheol* の新生仔期曝露による雌ラット生殖器系への影響、第 26 回日本トキシコロジー学会(ワークショップ)、1999 年 7 月、札幌。

吉田 緑、前川昭彦ら、*p-tert-Octylphenol* の新生仔期曝露が雄ラットの生殖器系に与える影響、第 26 回日本トキシコロジー学会、ワークショップ、1999 年 7 月、札幌。

安藤 進、前川昭彦ら、ENNG によるラット子宮内膜癌の誘発に及ぼす高動物性脂肪食の影響。第 58 回日本癌学会総会、1999 年 9 月、広島。

高橋正一、前川昭彦ら、ENNG 誘発マウス子宮発癌におよぼすエストロゲン及びその代謝ステロイドのプロモーション作用の検討。第 58 回日本癌学会総会、1999 年 9 月、広島。

勝田真一、前川昭彦ら、正常性周期を示すラット及び新生仔期 *p-tert-octylphenol* 曝露により持続発情を来した雌ラット子宮内膜におけるエストロゲンレセプター α mRNA の局在変化。第 16 回日本毒性病理学会、2000 年 1 月、岐阜。

吉田 緑、前川昭彦、内分泌攪乱化学物質、特にエストロゲン様作用を有する化学物質の雌性生殖器への影響。第 16 回日本毒性病理学会(シンポジウム)、2000 年 1 月、岐阜。

Yoshida, M., Maekawa A., et al., Lasting effects of neonatal exposure to *p-tert-octylphenol* on the reproductive tract in female and male rats. The 2nd Congress of Asian Society of Toxicology, 2000, August, Cheju, Korea.

高橋正一、前川昭彦ら、ENNG 誘発マウス子宮発癌におよぼすタモキシフェンの検討、第 59 回日本癌学会総会、2000 年 10 月、横浜。

勝田真一、前川昭彦ら、高用量 *p-tert-octylphenol* の成熟期または新生仔期曝露によるラット子宮内膜腺癌修飾作用、第 59 回日本癌学会総会、2000 年 10 月、横浜。

吉田緑、前川昭彦ら、ラットの発育期子宮内膜におけるエストロゲンレセプターの発現および細胞増殖活性に与える新生仔期オクチルフェノール大量曝露の影響について、第 17 回日本毒性病理学会、2001 年 1 月、兵庫。

吉田緑、前川昭彦ら、胎仔期および授乳期の低用量 bisphenol A 曝露がラット雌性生殖器系に及ぼす影響、第 28 回トキシコロジー学会学術年会、2001 年 7 月、東京。

Yoshida, M., Maekawa, A., et al., Effect of in utero and lactational exposure to low-dose bisphenol A on rat uterine carcinogenesis. 環境ホルモン学会第 4 回研究発表会、2001 年 12 月、つくば。

吉田緑、前川昭彦ら、新生仔期オクチルフェノール曝露時間の長さがラット子宮発がんに与える影響、第 18 回日本毒性病理学会、2002 年 1 月、東京。

榊田周佳、鰐淵英機、市原敏夫、須方督夫、福島昭治：ラット肝中期発癌試験法（伊東法）を用いた α -benzene hexachloride (α -BHC) の発癌修飾作用の検討。第 15 回日本毒性病理学会、1 月 28-29 日、水戸、1999（第 15 回日本毒性病理学会講演要旨集 P-39, p.47）

西川隆之、鰐淵英機、森村圭一郎、魏 民、榊田周佳、北野光昭、須方督夫、福島昭治：ラット肝中期発癌試験（伊東法）を用いた dieldrin の発癌修飾作用。第 58 回日本癌学会総会、9 月 28-10 月 1 日、広島、1999（日本癌学会総会記事 1263, p.424）

福島昭治：がん原因子のリスク評価。第 59 回日本癌学会総会、10 月 4-6 日、横浜、2000（日本癌学会総会記事 1024, p.24）

須方督夫、尾崎圭介、宇和川賢、小川元女、西川隆之、鰐淵英機、奥野泰由、福島昭治：環境発癌物質 DDT の低濃度域における肝発癌性の検討。第 59 回日本癌学会総会、10 月 4-6 日、横浜、2000（日本癌学会総会記事 2287, p.281）

Nishikawa, T., Ogawa, M., Kanako, M., Seike, N., Wanibuchi, H. and Fukushima, S.: Promoting effects of an organic arsenicals, dimethylarsinic acid and related compounds in rat liver carcinogenesis. 92nd Annual Meeting, American Association for Cancer Research, March 24-28, New Orleans, LA, U.S.A., 2001 (AACR proceedings, vol.42, March 2001, 1252, p.110)

Fukushima, S., Wanibuchi, H., Wei, M., Salim, E.I., Nishikawa, T. and Morokawa, T.: Carcinogenicity of dimethylarsinic acid and related compounds in

animals. Annual Meeting, International Conference on Environmental Toxicology of Metals and Metalloids –Environmental Chemistry, Toxicology and Health, July 1-5, South Molle Island, Australia. 2001 (Program, p.23)

Fukushima, S., Wanibuchi, H., Wei, M., Salim, E.I. and Morimura, K.: Carcinogenicity of dimethylarsinic acid, an inorganic arsenic metabolite in rodents. 18th European Congress of Pathology, September 8-13, Berlin, Germany, 2001 (Final Program, P-124, p.44)

Y.Nakashima,Y.Ishimi,K.Umegaki,S.Ikegami:Transfer of isoflavones from mother to suckling pups through milk in rats, Third International Symposium on the Role of Soy in Preventing and Treating Chronic Disease, Oct. 31-Nov. 3, 1999, Washington, USA

石見佳子、荒井直子、梅垣敬三、王新祥、呉堅、宮浦千里、武田明治、池上幸江：
卵巣摘出骨粗鬆症モデル動物における大豆イソフラボン大量投与の生体影響、
第 54 回日本栄養食糧学会、平成 12 年 5 月 14 日、松山

東泉裕子、中嶋洋子、石見佳子、池上幸江：
母親ラットからの胎児・乳児への
大豆イソフラボン移行とその生体影響、第 54 回日本栄養食糧学会、平成 12 年 5 月 14 日、松山

東泉裕子、井下礼子、小菅美樹、山本美樹、中嶋洋子、石見佳子、池上幸江：
母親ラットから胎児・乳児期のゲニステイン暴露の影響：第 55 回日本栄養食糧学会、平成 13 年 5 月 7 日、京都

石見佳子、吉田美紀、脇元聡子、呉堅、千葉大成、王新祥、池上幸江、武田健、宮浦千里、男性の骨粗鬆症モデルマウスの骨量減少に対する大豆イソフラボンの効果：第 55 回日本栄養食糧学会、平成 13 年 5 月 7 日、京都

S.Ikegami,Y.Tosen,M.Yamamoto,Y.Nakashima,Y.Ishimi:Hormonal effects of soy isoflavones on

pregnant and lacteal rats and their suckling pups:17th Int. Congress of Nutrition 2001, August 27-31, Vienna, Austria

鈴木 勉、水尾圭祐、成田 年 妊娠期および授乳期にビスフェノール A に曝露されたマウスの行動変化 第 4 回日本薬理学会年会、2001 年 3 月、横浜

坂田 守、成田 年、水尾圭祐、鈴木 勉 Bisphenol A 胎児期慢性曝露マウスにおける行動に及ぼす影響 第 7 回 日本行動薬理研究会、2001 年 8 月、福島

水尾圭祐、成田 年、坂田 守、鈴木 勉 Bisphenol A の妊娠期および授乳期曝露による dopamine 関連行動に及ぼす影響 第 24 回日本神経科学・第 44 回日本神経化学合同大会、2001 年 9 月、京都

鈴木 勉、水尾圭祐、坂田 守、成田 年 ビスフェノール A の脳神経系への影響 フォーラム 2001、2001 年 10 月、金沢

船江良彦、廣井豊子
ビスフェノールの脳内アミンに対する作用（シンポジウム）
第 74 回日本薬理学会年会（2001）

岡田和嗣、廣井豊子、船江良彦
Bisphenol A の中枢神経系に及ぼす作用
環境ホルモン学会第 4 回研究発表会（2001）

伏木信次：脳神経系の形成・成熟に及ぼすビスフェノール A の影響に関する病理学的解析、シンポジウム「内分泌かく乱化学物質の中枢神経系への影響」、第 74 回日本薬理学会年会、2001 年 3 月 22 日、横浜市。

G. 知的所有権の取得状況
なし

研究成果の一覧表

書籍

著者名	論文タイトル名	書籍全体の編集者名	書籍名	出版社名	出版地	出版年	ページ
Shirai, T., et al.	Medium-term bioassays in rats for rapid detection of the carcinogenic potential of chemicals.	McGregor DB, Rice JM, Venitt S	The Use of Short- and Medium-term Tests for Carcinogens and Data on Genetic Effects in Carcinogenic Hazard Evaluation	IARC Scientific Publications	Lyon	1999	251-272
Shirai, T., et al.	Prostate.	Nagao M, Sugimura T	Food Born Carcinogenesis	John Wiley & Sons		2000	270-274
Imaida K, Shirai T, et al.	Degenerative Changes	Nagao M, Sugimura T	Food Born Carcinogenesis	John Wiley & Sons		2000	275-284
白井智之	内分泌かく乱物質研究の最前線	(社)日本化学会	化学総説	学会出版センター	東京	2001	15-31
渡辺満利、前川昭彦	雌性生殖器	日本毒性病理学会	毒性病理組織学	アイベック	東京	2000	355-382
Davis, B., A. Maekawa, et al.	Female Genital System	Mohr,U.	International Classification of Rodent Tumours. The Mouse	Springer,	Berlin	2001	211-268
Rehm, S., Maekawa, A., et al.	Male Genital System.	Mohr,U.	International Classification of Rodent Tumours. The Mouse	Springer,	Berlin	2001	163-210
Chen, T., Fukushima, S., et al.	Differences of promoting activity and loss of heterozygosity between dimethylarsinic acid and sodium L-ascorbate in F1 rat urinary bladder carcinogenesis.	Chappell, W.R.	Arsenic exposure and health effects.	Abernathy, C.O.	Calderon	1999	263-266
Fukushima, S., et al.	Carcinogenicity of dimethylarsinic acid, an inorganic arsenic metabolite, in rodents. In: Surgical pathology update 2001, 18th European congress of pathology,	Hauptmann, S., Dietel, M., Sobrinho-Simos., M.	Surgical pathology update 2001, 18th European congress of pathology,	ABW Wissenschaftsverlag		2001	480-483
成田年ら	オピオイド受容体と薬物依存 -モルヒネ依存の分子機構-	佐藤公道 赤池昭紀	7回膜貫通型受容体研究の新展開 -ポストゲノム時代の受容体研究のゆくえ	医歯薬出版株式会社	東京	2001	199-205
伏木信次	痴呆症 基礎と臨床の最前線	中島健二	痴呆の病理学	金芳堂	京都	23-33	23-33

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Iwasaki, S., Kato, K., Mori, T., Takahashi, S., Futakuchi, M., Shirai, T.	Development of androgen-independent carcinomas from androgen-dependent preneoplastic lesions in the male accessory sex organs of rats treated with 3,2'-dimethyl-4-aminobiphenyl and testosterone propionate.	Jpn. J. Cancer Res.	90	23-30	1999
Hagiwara A, Boonyaphiphat P, Tanaka H, Kawabe M, Tamano S, Kaneko H, Matsui M, Hirose M, Ito N, Shirai T.	Organ-dependent modifying effects of caffeine, and two naturally occurring antioxidants α -tocopherol and n-tritriacontane-16,18-dione, on 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP)-induced mammary and colonic carcinogenesis in female F344 rats.	Jpn. J. Cancer Res.	90	399-405	1999
Hirose M, Hakoi K, Takahashi S, Hoshiya T, Akagi K, Cui L, Saito K, Kaneko H, Shirai T.	Sequential morphological and biological changes in the glandular stomach induced by oral administration of catechol to male F344 rats.	Toxicol. Pathol.	27	448-455	1999
Sano M, Hagiwara A, Tamano S, Hasegawa R, Imaida K, Ito N, Shirai T.	Dose-dependent induction of carcinomas and glutathione S-transferase placental form negative eosinophilic foci in the rat liver by di(2-ethylhexyl)phthalate after diethylnitrosamine initiation.	J. Toxicol. Sci.	24	177-186	1999
Shirai T, Cui L, Takahashi S, Futakuchi M, Asamoto M, Kato K, Ito N.	Carcinogenicity of 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) in the rat prostate and induction of invasive carcinomas by subsequent treatment with testosterone propionate.	Cancer Lett.	143	217-221	1999
Ikeda Y, Takahashi S, Kimura J, Cho YM, Imaida K, Shirai S, Shirai T.	Anophthalmia in litters of female rats treated with the food-derived carcinogen, 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine.	Toxicol. Pathol.	27	628-631	1999
Hirose M, Fukushima S, Imaida K, Ito N, Shirai T.	Modifying effects of phytic acid and g-oryzanol on the promotion stage of rat carcinogenesis.	Anticancer Res.	19	3665-3670	1999
Hirose M, Takahashi S, Ogawa K, Futakuchi M, Shirai T.	Phenolics: Blocking agents for heterocyclic amine-induced carcinogenesis.	Fd. Chem. Toxic.	37	985-992	1999
Hagiwara A, Miyata E, Tamano S, Sano M, Masuda C, Funae Y, Ito N, Fukushima S, Shirai T.	Non-carcinogenicity, but dose-related increase in preneoplastic hepatocellular lesions, in a two-year feeding study of phenobarbital sodium in male F344 rats.	Fd. Chem. Toxic.	37	869-879	1999
Ogawa K, Kimoto N, Asamoto M, Nakanishi M, Takahashi S, Shirai T.	Aberrant expression of p27kip1 is associated with malignant transformation of the rat urinary bladder epithelium.	Carcinogenesis	21	117-121	2000
Cui L, Takahashi S, Tada M, Kato K, Yamada Y, Kohri K, Shirai T.	Immunohistochemical detection of carcinogen-DNA adducts in normal human prostate tissues transplanted into the subcutis of athymic nude mice: Results with 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) and 3,2'-dimethyl-4-aminobiphenyl (DMAB) and relation to cytochrome P450s and N-acetyltransferase activity.	Jpn. J. Cancer Res.	91	52-58	2000

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Imaida K, Ogawa K, Takahashi S, Ito T, Yamaguchi T, Totsuka Y, Wakabayashi K, Tanaka K, Ito N, Shirai T.	Delay of DNA-adduct repair and severe toxicity in xeroderma pigmentosum group A gene (XPA) deficient mice treated with 2-amino-1-methyl-6-phenylimidazo [4,5-b] pyridine (PhIP).	Cancer Lett.	150	63-69	2000
Yaono M, Tamano S, Mori T, Kato K, Imaida K, Asamoto M, Shirai T.	Lobe specific effects of testosterone and estrogen on 3,2'-dimethyl-4-aminobiphenyl-induced rat prostate carcinogenesis.	Cancer Lett.	150	33-40	2000
Takahashi S, Ikeda Y, Kimoto N, Okochi E, Cui L, Nagao M, Ushijima T, Shirai T.	Mutation induction by mechanical irritation caused by uracil-induced urolithiasis in Big Blue ⁺ rats.	Mutation Res.	447	275-280	2000
Shirai T, Takahashi S, Cui L, Futakuchi M, Kato K, Tamano S, Imaida K.	Experimental prostate carcinogenesis—rodent models.	Mutation Res.	462	219-226	2000
Imaida K, Hagiwara A, Yoshino H, Tamano S, Sano M, Futakuchi M, Ogawa K, Asamoto M, Shirai T.	Inhibitory effects of low doses of melatonin on induction of preneoplastic liver lesions in a medium-term liver bioassay in F344 rats: relation to the influence of electromagnetic near field exposure.	Cancer Lett.	155	105-114	2000
Hirose M, Yamaguchi T, Cui L, Kimoto N, Futakuchi M, Kono T, Nishibe S, Shirai T.	Effects of arctiin on PhIP-induced mammary, colon and pancreatic carcinogenesis in female Sprague-Dawley rats and MeIQx-induced hepatocarcinogenesis in male F344 rats.	Cancer Lett.	155	79-88	2000
Kato K, Takahashi S, Cui L, Toda T, Suzuki S, Futakuchi M, Sugiura S, Shirai T.	Suppressive effects of dietary genistin and daidzin on rat prostate carcinogenesis.	Jpn. J. Cancer Res.	91	786-791	2000
Takahashi S, Ikeda Y, Orita S-i, Sakakibara M, Kimoto N, Suzuki S, Imaida K, Shirai T.	Enhancing effects of 2-amino-4,5-diphenylthiazole-induced polycystic kidneys on renal carcinogenesis in rats treated with dimethylnitrosamine.	Toxicol. Appl. Pharmacol.	167	12-17	2000
Akaza H, Tsukamoto S, Morita T, Yamauchi A, Onozawa M, Shimazui T, Ideyama Y, Shirai T.	Promoting effects of antiandrogenic agents on rat ventral prostate carcinogenesis induced by 3,2'-dimethyl-4-aminobiphenyl (DMAB).	Prostate Cancer and Prostatic Diseases	3	115-119	2000
Kawabe M, Cui L, Kimoto N, Sano M, Hirose M, Shirai T.	Modifying effects of propolis on MeIQx promotion of rat hepatocarcinogenesis and in a female rat two-stage carcinogenesis model after multiple carcinogen initiation.	Nutrition and Cancer	37	179-186	2000
Imaida, K., Tamano, S., Kato, K., Ikeda, Y., Asamoto, M., Takahashi, S., Nir, Z., Murakoshi, M., Nishino, H., Shirai, T.	Lack of chemopreventive effects of lycopene and curcumin on experimental rat prostate carcinogenesis.	Carcinogenesis	22	467-472	2001
Hagiwara, A., Miyashita, K., Nakanishi, T., Sano, M., Tamano, S., Asai, I., Nakamura, M., Imaida, K., Ito, N., Shirai, T.	Lack of tumor promoting effects of carrageenan on 1,2-dimethylhydrazine-induced colorectal carcinogenesis in male F344 rats.	J. Toxicol. Pathol.	14	37-43	2001
Thamavit, W., Pratoomtone, P., Kongtim, S., Shirai, T., Ito, N.	Inhibition by vitamin E of cholangiocarcinoma induction due to combined nitrite and aminopyrine.	Asian Pac. J. Cancer Prev.	2	69-70	2001

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Kimoto, N., Hirose, M., Futakuchi, M., Iwata, T., Kasai, M., Shirai, T.	Site-dependent modulating effects of conjugated fatty acids from safflower oil in a rat two-stage carcinogenesis model in female Sprague-Dawley rats.	Cancer Lett.	168	15-21	2001
Hirose, M., Hoshiya, T., Mizoguchi, Y., Nakamura, A., Akagi, K., Shirai, T.	Green tea catechins enhance tumor development in the colon without effects in the lung or thyroid after pretreatment with 1,2-dimethylhydrazine or 2,2'-dihydroxy-di-n-propylnitrosamine in male F344 rats.	Cancer Lett.	168	23-29	2001
Hagiwara, A., Takesada, Y., Tanaka, H., Tamano, S., Hirose, M., Ito, N., Shirai, T.	Dose-dependent induction of glandular stomach preneoplastic and neoplastic lesions in male F344 rats treated with catechol chronically.	Toxicol. Pathol.	29	180-186	2001
Imaida, K., Sano, M., Tamano, S., Asamoto, M., Ogawa, K., Futakuchi, M., Shirai, T.	Organ dependent enhancement of rat 3,2'-dimethyl-4-aminobiphenyl (DMAB) carcinogenesis by 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP): positive effects on the intestine but not the prostate.	Carcinogenesis	22	1295-1299	2001
Asamoto, M., Hokaiwado, N., Cho, Y.-M., Ikeda, Y., Takahashi, S., Shirai, T.	Metastasizing neuroblastomas from taste buds in rat transgenic for the simian virus 40 large T antigen under control of the probasin gene promoter.	Toxic. Pathol.	29	363-368	2001
Hagiwara, A., Miyashita, K., Nakanishi, T., Sano, M., Tamano, S., Kadota, T., Koda, T., Nakamura, M., Imaida, K., Ito, N., Shirai, T.	Pronounced inhibition by a natural anthocyanin, purple corn color, of 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) associated colorectal carcinogenesis in male F344 rats pretreated with 1,2-dimethylhydrazine.	Cancer Lett.	171	17-25	2001
Mori, T., Imaida, K., Tamano, S., Sano, M., Takahashi, S., Asamoto, M., Takeshita, M., Ueda, H., Shirai, T.	Beef tallow, but not perilla or corn oil, promotion of rat prostate and intestinal carcinogenesis by 3,2'-dimethyl-4-aminobiphenyl.	Jpn. J. Cancer Res.	92	1026-1033	2001
朝元誠人, 白井智之	前立腺発癌への食餌要因の影響	腎泌尿防医誌	9	22-25	2001
Maekawa, A. et al.	Uterine carcinogenesis by chemicals/hormones in rodents (review).	J. Toxicol. Pathol.	12	1-12	1999
Katsuda, S., Maekawa, A., et al.	Estrogen receptor mRNA in uteri of normal estrous cycling and ovariectomized rats by in situ	Proc. Soc. Exp. Biol. Med.	221	207-214	1999
Kitamura, T., Maekawa, A., et al.	Transplacental administration of diethylstilbestrol (DES) causes lesions in female reproductive organs of Donryu rats, including endometrial neoplasia.	Cancer Lett.	141	219-228	1999
Tanoguchi, K., Maekawa, A., et al.	K-Ras point mutations in spontaneously occurring endometrial adenocarcinomas in the Donryu rat.	Tohoku J. Exp. Med.	189	87-93	1999
Katsuda, S., Maekawa, A., et al.	Dose and treatment duration-related effects of p-tert-octylphenol on female rats.	Reprod. Toxicol.	14	119-126	2000
Nagaoka, T., Maekawa, A., et al.	Effects of reproduction on spontaneous development of endometrial adenocarcinomas and mammary tumors in Donryu rats.	Jpn. J. Cancer Res.	91	375-382	2000

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Yoshida,M., and Maekawa,A., et al.	Subcutaneous treatment of p-tert-octylphenol exerts estrogenic activity on the female reproductive tract in normal cycling rats of two different strains.	Toxicol. Lett.	116	89-101	2000
Katsuda, S., Maekawa,A., et al.	Irreversible effects of the reproductive tract of female rats by neonatal exposure to p-tert-octylphenol.	Toxicol. Appl. Pharmacol.	165	217-226	2000
Aso,S., Maekawa,A., et al.	Twenty-eight-day repeated-dose toxicity studies for detection of weak endocrine disrupting effects of nonylphenol and atrazine in female rats.	J.Toxicol.Pathol.	13	13-20	2000
長谷川隆一,前川昭彦ら	アルキルフェノールのエストロゲン様作用と生殖系への影響	日本食品化学学会誌	7	1-9	2000
Takahashi,M., Maekawa,A., et al.	Possible mechanisms underlying mammary carcinogenesis in female Wistar rats by nitrofurazone.	Cancer Lett.	156	177-184	2000
Yamasaki,K., Maekawa,A., et al.	Immature rat uterotrophic assay of diethylstilbestrol, ethynyl estradiol and atrazine.	J.Toxicol.Pathol.	13	145-150	2000
Yoshida,M., Katsuda,S., Takenaka,A., Watanabe,G., Taya,K., Maekawa, A.	Effects of neonatal exposure to a high-dose p-tert-octylphenol on the male reproductive tract in rats	Toxicol. Lett.	121	21-33	2001
Yoshida,M., Katsuda,S., Maekawa,A.	Effects of endocrine disrupting chemicals with estrogenic activity on the female reproductive system in rats	J. Toxicol. Pathol.	14	83-86	2001
Takahashi,M., Nishimura,S., Miyajima,K., Sasahara,K., Yoshida, M., Ando,J., Maekawa, A.	Time-dependent promotion activity of 17 β -estradiol on uterine carcinogenesis in mice initiated with N-ethyl-N-nitrosourea	Cancer Lett.	165	123-130	2001
Watanabe,T., Adno-Lu,J., Imai,S., Takano,S., Takahashi,M., Maekawa,A.	Spontaneous tumors in the uterus, testis and other organs of F1 hybrids between Donryu and F344 rats	J.Toxicol.Pathol.	14	99-104	2001
Katsuda,S., Yoshida,M., Kuroda,H., Ando,J., Takahashi,M., Kurokawa,Y., Watanabe,G., Taya,K., Maekawa, A.	Uterine adenocarcinoma in N-ethyl-N2-nitro-N-nitrosoguanidine-treated rats with high-dose exposure to p-tert-octylphenol during adultfood	Jpn.J. Cancer Res.	93	1-9	2002
Shimomoto,T, Yoshida,M., Takahashi,M., Maekawa, A.	Sebaceous gland metaplasia in a mammary fibroadenoma developing in a female Donryu rat	J.Toxicol.Pathol.	15	in press	2002
Yoshida,M., Takenaka,A., Katsuda, S., Kurokawa,Y., Maekawa, A.	Neonatal exposure to p-tert-octylphenol causes abnormal expression of estrogen receptors and subsequent alteration of cell proliferating activity in the developing rat uteri	Toxicol. Pathol.	30	in press	2002

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Yamamoto, S., Romanenko, A., Wei, M., Masuda, C., Zaparin, W., Vinnicherko, W., Vozianov, A., Lee, C.C.R., Morimura, K., Wanibuchi, H., Tada, M. and Fukushima, S.	Specific p53 gene mutations in urinary bladder epithelium after the Chernobyl accident.	Cancer Res.	59	3606-3609	1999
Chen, T., Na, Y., Wanibuchi, H., Yamamoto, S., Lee, C.C.R. and Fukushima, S.	Loss of heterozygosity in (Lewis×F344)F1 rat urinary bladder tumors induced with N-butyl-N-(4-hydroxybutyl)nitrosamine followed by dimethylarsinic acid or sodium L-ascorbate.	Jpn. J. Cancer Res.	90	818-823	1999
Lee, C.C.R., Ichihara, T., Yamamoto, S., Wanibuchi, H., Sugimura, K., Wada, S., Kishimoto, T. and Fukushima, S.	Reduced expression of the CDK inhibitor p27KIP1 in rat two-stage bladder carcinogenesis and its association with expression profiles of p21WAF1/Cip1 and p53.	Carcinogenesis	20	1697-1708	1999
Wei, M., Wanibuchi, H., Yamamoto, S., Li, W. and Fukushima, S.	Urinary bladder carcinogenicity of dimethylarsinic acid in male F344 rats.	Carcinogenesis	20	1873-1876	1999
Fukushima, S.	Low-dose carcinogenicity of a heterocyclic amine, 2-amino-3, 8-dimethylimidazo [4,5-f]quinoxaline:relevance to risk	Cancer Lett.	143	157-159	1999
Sukata, T., Ozaki, K., Uwagawa, S., Seki, T., Wanibuchi, H., Yamamoto, S., Okuno, Y. and Fukushima, S.	Organ-specific, carcinogen-induced increases in cell proliferation in p53-deficient mice.	Cancer Res.	60	74-79	2000
Vijayaraghavan, M., Wanibuchi, H., Yamamoto, S., Hakoi, K., Nakae, D., Konishi, Y. and Fukushima, S.	Lack of promoting potential of dimethylarsinic acid in the kidney of male NCI-Black reiter rats.	J. Toxicol. Pathol.	13	87-91	2000
Morikawa, T., Wanibuchi, H., Morimura, K., Ogawa, M. and Fukushima, S.	Promotion of skin carcinogenesis by dimethylarsinic acid in keratin (K6) / ODC transgenic mice.	Jpn. J. Cancer Res.	91	579-581	2000
Yoshida, K., Kuroda, K., Inoue, Y., Chen, H., Wanibuchi, H., Fukushima, S. and Endo, G.	Metabolites of arsenobetaine in rats: does decomposition of arsenobetaine occur in mammals?+	Applied Organometallic Chem.	15	271-276	2001
Yoshida, K., Kuroda, K., Inoue, Y., Chen, H., Date, Y., Wanibuchi, H., Fukushima, S. and Endo, G.	Metabolites of dimethylarsinic acid in rats: production of unidentified metabolites in vivo.	Applied Organometallic Chem.	15	539-547	2001
Kuroda, K., Yoshida, K., Yasukawa, A., Wanibuchi, H., Fukushima, S. and Endo, G.	Enteric bacteria may play a role in mammalian arsenic metabolism.	Applied Organometallic Chem.	15	548-552	2001

発表者名	論文タイトル名	発表誌名	巻号	ページ	出版年
Masuda, C., Fukushima, S., et al.	Presence of a no-observed effect level for enhancing effects of development of the α -isomer of benzene hexachloride (α -BHC) on diethylnitrosamine-initiated hepatic foci in rats.	Cancer Lett.	163	179-185	2001
Vijayaraghavan, M., Fukushima, S., et al	Dimethylarsinic acid induced 8-hydroxy-2'-deoxyguanosine formation in the kidney of NCI-Black-Reiter rats.	Cancer Lett.	165	11-17	2001
Sukata, T., Uwagawa, S., Ozaki, K., Ogawa, M., Nishikawa, T., Iwai, S., Kinoshita, A., Wanibuchi, H., Imaoka, S., Funae, Y., Okuno, Y. and Fukushima, S.	Detailed low dose study of 1, 1-bis(p-chlorophenyl)-2,2,2-trichloroethane carcinogenesis suggests the possibility of a hormetic effect.	Int. J. Cancer	inpress.		2002
Nishikawa, T., Wanibuchi, H., Ogawa, M., Kinoshita, A., Morimura, K., Hiroi, T., Funae, Y., Kishida, H., Nakae, D. and Fukushima, S.	Promoting effects of monomethylarsonic acid, dimethylarsinic acid and trimethylarsine oxide on induction of rat liver preneoplastic glutathione S-transferase placental form positive foci; A possible reactive oxygen species mechanism.	Int. J. Cancer	inpress.		2002
Seike N., Fukushima, S., et al.	Lack of promoting effect due to oral administration of dimethylarsinic acid on rat lung carcinogenesis initiated with N-bis(2-hydroxypropyl)nitrosamine.	Cancer Lett.	175	113-119	2002
Y.Ishimi, C.Miyaura, M.Omura, Y.Sato, Y.Uchiyama, M.Ito, X.Wang, T.Suda and S.Ikegami	Selective effects of genistein, a soybean isoflavone, on B-Lymphopoiesis and bone loss caused by estrogen deficiency	Endocrinology	140	1893-1900	1999
Y.Ishimi, N.Arai, X.Wang, J.Wu, K.Umegaki, C.Miyaura, and S.Ikegami.	Difference in effective dosage of genistein on bone and uterus in Ovariectomized mice, Biochem.Biophys.	Research Comm.	274	697-701	2000
Takashima Y., Tsutsumi M., Sasaki Y., Tsujiuchi T., Kusuoka O., Konishi Y.	Lack of bisphenol A in maternal rats or treatment on response of their offspring to N-nitrosobis(2-hydroxypropyl)amine.	J.Toxicol. Pathol.	13	87-98	2001
Suzuki T, Kato H, Tsuda M, Suzuki H and Misawa M	Effect of non-competitive NMDA receptor antagonist ifenprodil on morphine-induced place preference in mice.	Life Sci.	64 (12)	PL151-156	1999
Suzuki T, Ise Y and Misawa M	Mecamylamine-precipitated nicotine-withdrawal aversion in Lewis and Fischer-344 inbred rat strains.	Eur. J. Pharmacol.	369	159-162	1999
Suzuki T, Aoki T, Kato H, Yamazaki M and Misawa M	Effects of the 5-HT ₃ receptor antagonist ondansetron on the ketamine- and dizocilpine-induced place preferences in mice.	Eur. J. Pharmacol.	385	99-102	1999
Narita M, Aoki T and Suzuki T	Molecular evidence for the involvement of NR2B subunit containing N-methyl-D-aspartate receptors in the development of morphine-induced place preference.	Neuroscience	101	601-606	2000
成田 年、鈴木 勉	モルヒネ依存の分子機構	脳の科学	22	417-425	2000