

# 目 次

## 原著論文要旨

### Chemistry Inorganic and Physical

- STM observation of thia[11]hetero helicene on gold(111) and gold(110) surface. .... 1  
Masahiro Taniguchi, Hiroko Nakagawa (中川弘子), Akihiko Yamagishi,  
Kohichi Yamada (山田紘一)
- $^{113}\text{Sn}$ - $^{113}\text{mIn}$  generator with a glass beads column. .... 2  
Kunie Teranishi (寺西邦江), Yasuko Yamaashi (山足安子),  
and Yoshiaki Maruyama (丸山芳明)

### Organic

- Antioxidative Activity of *Allium victorialis* L. Extracts ..... 3  
Yoshiaki Shirataki (白瀧 義明), Noboru Motohashi, Satoru Tani (谷 覺),  
Katsuyoshi Sunaga (須永 克佳), Hiroshi Sakagami, Kazue Satoh, Hideki Nakashima, Taisei  
Kanamoto, Kristina Wolfard and Joseph Molnar
- Effects of Prenylflavanones from *Sophora* Species on Growth and Activation of Mouse  
Macrophage-like Cell Line ..... 4  
Miyuki Tashiro(田代 美由樹), Fumika Suzuki, Yoshiaki Shirataki (白瀧 義明),  
Yoshiko Yokote, Kiso Akahane, Noboru Motohashi, Mariko Ishihara,  
Yi Jiang and Hiroshi Sakagami,
- Stilbene Derivatives from Two Species of Gnetaceae ..... 5  
Ibrahim Iliya, Toshiyuki Tanaka, Munekazu Inuma, Zulfiqur Ali, Miyuki Furusawa,  
Ken-ichi Nakaya, Yoshiaki Shirataki (白瀧 義明), Jin Murata and Dedy Darnaed

Inhibitory Effects of Echinoflavanone and Sophoraisoflavanone D in <i>Sophora chrysophylla</i> Seem. on Copper Ion-Induced protein Oxidative Modification of Mouse Brain Homogenate <i>In Vitro</i> .....	6
Shizuo Toda and Yoshiaki Shirataki (白瀧 義明)	
Lipid Membrane Perturbation Caused by Some Isoflavones and Phenothiazines, and The Activity of These Compounds as Inhibitors of Multidrug Resistance.....	7
Krystyna Michalak, Andrzej B. Hendrich, Olga Wesolowska, Andrzej Pola, Barbara Lania-Pietrzak, Noboru Motohashi, Yoshiaki Shirataki (白瀧 義明) and Joseph Molnarr	
Stilbene Oligomers in Roots of <i>Sophora moorcroftiana</i> .....	8
Yoshiaki Shirataki (白瀧 義明) , Toshiyuki Tanaka, Masayoshi Ohyama, Shizuo Toda and Munekazu Iinuma	
Cancer prevention and therapy with kiwifruit in Chinese folklore medicine: a study of kiwifruit extracts.....	9
Noboru Motohashi, Yoshiaki Shirataki (白瀧 義明) , Masami Kawase (河瀬 雅美) , Satoru Tani ( 谷 覺 ) , Hiroshi Sakagaami, Kazue Satoh, Teruo Kurihara, Hideki Nakashima, Ilona Mucsi , Andreas Varga and Joseph Molnar	
Differential interaction of <i>Sophora</i> isoflavonoids with lipid bilayers.....	10
Andrzej B. Hendrich, Rafal Malon, Andrzej Pola, Yoshiaki Shirataki(白瀧 義明) Noboru Motohashi and Krystyna Michalak	
Effects of Isoflavones from <i>Sophora</i> Species on the Growth and Activation of a Mouse Macrophage-like Cell Line.....	11
Miyuki Tashiro(田代 美由樹) , Fumika Suzuki, Yoshiaki Shirataki (白瀧 義明) , Yoshiko Yokote, Kiso Akahane, Noboru Motohashi, Mariko Ishihara, Kazue Satoh and Hiroshi Sakagami,	
Inhibitory Effects of Isoflavones in <i>Sophora moorcroftiana</i> on Lipid Peroxidation by Superoxide.....	12
Shizuo Toda and Yoshiaki Shirataki (白瀧 義明)	

Reactivity of 2-Methylene-1,3-dicarbonyl Compounds. 1,3-Dipolar Cycloaddition Reaction with Nitrile Oxide.....	13
Masashige Yamauchi (山内昌茂)	
<b>The Influence of Ligand Side Chain on the Enantioselectivity of Lewis Acid Catalyzed Diels-Alder Reactions</b> .....	14
Masashige Yamauchi (山内昌茂), Kazuhiro Itai (板井和広) and Yuko Honda (本田裕子)	
New Method for the Synthesis of Nitriles from <i>O</i> -Arylaldoximes with ZrCl <sub>4</sub> .....	15
Chiho Tsuji (辻 千穂), Etsuko Miyazawa (宮沢悦子), Takeshi Sakamoto (坂本武史), and Yasuo Kikugawa (菊川靖雄)	
Introduction of a Hydroxy Group at the Para Position and <i>N</i> -Iodophenylation of <i>N</i> -Arylamides Using Phenyliodine(III) Bis(trifluoroacetate).....	16
Naoki Itoh (伊藤直樹), Takeshi Sakamoto (坂本武史), Etsuko Miyazawa (宮沢悦子), and Yasuo Kikugawa (菊川靖雄)	
<b>3,5-Dibenzoyl-1,4-dihydropyridines: Synthesis and MDR Reversal in Tumor Cells</b> .....	17
Masami Kawase (河瀬雅美), Anamik Shah, Harsukh Gaveriya, Noboru Motohashi, Hiroshi Sakagami, Andreas Varga, and Joseph Molnar	
Interaction between 3,4-dihydropyridines and ampicillin, and erythromycin on different <i>E. coli</i> strains.....	18
Gyorgyi Gunics, Sandor Farkas, Noboru Motohashi, Anamik Shah, Gaveriya Harsukh, Masami Kawase (河瀬雅美), and Joseph Molnar	
Partial purification of cytotoxic substances from Moxa extract.....	19
Ikusuke Hatsukari, Naoko Hitosugi, Rie Ohno, Shinichi Nakamura, Satoshi Mizukami, Hiroshi Nagasaka, Isao Matsumoto, Hirotaka Kikuchi, Hirofumi Nishikawa, Masaru Niitsu (新津勝), Masami Kawase (河瀬雅美), Takaharu Negoro, Kazue Satoh, Hideki Nakashima and Hiroshi Sakagami	

Interaction between various resistance modifiers and apoptosis inducer	
12 <i>H</i> -Benzo[ <i>a</i> ]phenothiazine .....	20
Ilona Mucsi, Andreas Varga, Masami Kawase (河瀬雅美), Noboru Motohashi and Joseph Molnar	
Preparations of heterospirostanols and their pharmacological activities .....	21
Hanh-Ji Quan, Jyunichi Koyanagi(小柳順一), Koichi Ohmori, Shinichi Uesato, Tetsuaki Tsuchido, Setsuo Saito(齋藤節生)*	

## Analytical

Mass Spectrometric Separation and Determination of N <sup>1</sup> ,N <sup>12</sup> -Diacetylspermine in the Urine of Cancer Patients .....	22
Masaki Kobayashi (小林正樹), Keijiro Samejima (鮫島啓二郎), Kyoko Hiramatsu, and Masao Kawakita	
Simultaneous Determination of Endogenous and Orally Administered <sup>15</sup> N-Labeled Polyamines in Rat Organs .....	23
Yong Ji Xu (許 泳吉), Takeshi Hara (原 健), Keijiro Samejima (鮫島啓二郎), Hitomi Sasaki (佐々木ひとみ), Masaru Niitsu (新津 勝)	

## Biochemistry/Molecular Biology

IF3, a novel cell-differentiation factor, highly expressed in murine liver and ovary. ....	24
Hiroshi Mano (真野 博), Sachie Nakatani, Rika Aoyagi, Rina Ishii, Yuka Iwai, Nanako Shimoda, Yuko Jincho, Hitoshi Hiura, Minako Hirose, Chikako Mochizuki, Motoko Yuri, Ryang Hyock Im, Ulala Funada-Wada, Masahiro Wada (和田政裕).	
Presence and Features of Fatty Acyl-CoA Binding Activity of Rat Hepatic Peroxisomes ....	25
Fumie Hashimoto (橋本フミ恵) and Hidenori Hayashi (林 秀徳)	
Inhibition of cell growth through inactivation of eukaryotic translation initiation factor 5A (eIF5A) by deoxyspergualin .....	26
K. Nishimura, Y. Ohki, T. Fukuchi-Shimogori, K. Sakata, K. Saiga, T. Beppu (別府 隆信), A Shirahata (白幡 晶), K. Kashiwagi and K. Igarashi	

Polyamine structural effects on the induction and stabilization of liquid crystalline DNA : potential applications to DNA packaging, gene therapy and polyamine therapeutics--- 27  
M. Saminathan, T. Thomas, A Shirahata (白幡 晶), C. K. S. Pillai and T. J. Thomas

## Pharmaceutical

Targeting of salicylate to skin and muscle following topical injections in rats----- 28  
Daisuke Yoshida (吉田大介), Tetsuya Hasegawa (長谷川哲也),  
Kenji Sugibayashi (杉林堅次)

水晶発振子を用いた薬物の *in vitro* 皮膚透過迅速測定法に関する検討 : Rapid measurement of *in vitro* skin permeation of a drug using quartz crystal microbalance----- 29  
渡邊哲也(Tetsuya Watanabe)<sup>1</sup>, 長谷川哲也(Tetsuya Hasegawa), 高橋秀和, 石橋卓也,  
古沢宏幸, 岡畑恵雄, 杉林堅次(Kenji Sugibayashi)

Utility of MTT assay in three-dimensional cultured human skin model as an alternative for Draize skin irritation test: Approach using diffusion law of irritant in skin and toxicokinetics-toxicodynamics correlation----- 30  
Tetsuya Watanabe (渡邊哲也), Tetsuya Hasegawa (長谷川哲也),  
Hidekazu Takahashi, Takuya Ishibashi, Hiroshi Itagaki, Kenji Sugibayashi (杉林堅次)

Kinetic analysis on the *in vitro* cytotoxicity using Living Skin Equivalent for ranking the toxic potential of dermal irritants----- 32  
Kenji Sugibayashi (杉林堅次), Tetsuya Watanabe (渡邊哲也),  
Tetsuya Hasegawa (長谷川哲也), Hidekazu Takahashi, Takuya Ishibashi

Bromocriptine Reverses P-Glycoprotein-mediated Multidrug Resistance in Tumor Cells --- 33  
Nobuaki Shiraki, Keiko Okamura, Jin Tokunaga, Takafumi Ohmura,  
Kazuto Yasuda, Takeo Kawaguchi (川口健夫), Akinobu Hamada, Masahiro Nakano

N-acetyltransferase 2 genotype-related sulfapyridine acetylation and its adverse events...

34

Tanigawara Y, Kita T, Aoyama N, Gobara M, Komada F ( 駒田富佐夫 ), Sakai T, Kasuga M, Hatanaka H, Sakaeda T, Okumura K.

Effects of 12 Ca<sup>2+</sup> antagonists on multidrug resistance, MDR1-mediated transport and MDR1 mRNA expression ..... 36

Takara K, Sakaeda T, Tanigawara Y, Nishiguchi K, Ohmoto N, Horinouchi M, Komada F ( 駒田 富佐夫 ), Ohnishi N, Yokoyama T, Okumura K.

*In Vitro* Skin Permeation of Morphine Hydrochloride during the Finite Application of Penetration-Enhancing System Containing Water, Ethanol and *L*-Menthol..... 37

Yasunori Morimoto ( 森本雅憲 ), Yoshio Wada, Toshinobu Seki ( 関 俊暢 ), and Kenji Sugibayashi ( 杉林堅次 )

Effects of Particle Size, Helium Gas Pressure and Microparticle Dose on the Plasma Concentration of Indomethacin after Bombardment of Indomethacin-Loaded Poly-L-Lactic Acid Microspheres Using a Helios™ Gun System..... 38

Masaki Uchida ( 内田昌希 ), Hideshi Natsume ( 夏目秀視 ), Daisuke Kobayashi ( 小林大介 ), Kenji Sugibayashi ( 杉林堅次 ), and Yasunori Morimoto ( 森本雅憲 )

Introduction of poly-L-lactic acid microspheres into the skin using supersonic flow: effects of helium gas pressure, particle size and microparticle dose on the amount introduced into hairless rat skin ..... 39

Masaki Uchida ( 内田昌希 ), Yi Jin, Hideshi Natsume ( 夏目秀視 ), Daisuke Kobayashi ( 小林大介 ), Kenji Sugibayashi ( 杉林堅次 ), and Yasunori Morimoto ( 森本雅憲 )

The Enhancing Effect of a Triethanolamine-Ethanol-Isopropyl Myristate Mixed System on the Skin Permeation of Acidic Drugs..... 41

Liang Fang ( 方 亮 ), Yoichi Kobayashi, Sachihiko Numajiri ( 沼尻幸彦 ), Daisuke Kobayashi ( 小林大介 ), Kenji Sugibayashi ( 杉林堅次 ), and Yasunori Morimoto ( 森本雅憲 )

**Analysis of Transient and Reversible Effects of Poly-L-Arginine on the in vivo nasal absorption of FITC-dextran in rats** ..... 42

Kazuo Ohtake (大竹一男), Hideshi Natsume (夏目秀視), Hideo Ueda (上田秀雄), Yasunori Morimoto (森本雅憲)

**Fast-Disintegration Oral Tablets Having Sustained Release Property** ..... 43

Yi Jin, Hideki Ohkuma (大熊英樹), Hua Wang, Hideshi Natsume (夏目秀視), Kenji Sugibayashi (杉林堅次), and Yasunori Morimoto (森本雅憲)

## **Clinical Pharmacy**

**Overlapping of the Clinically Significant Adverse Reactions of Drugs**

**in the Poly-pharmacy** .....44

Toshinari Endo (遠藤敏成), Nao Watanabe (渡辺 直), Ken-ichi Goto, Nobuaki Kutsuma, Fusao Komada (駒田富佐夫), Yukiya Saitoh (齋藤侑也), Daisuke Kobayashi (小林大介) and Yasunori Morimoto (森本雅憲)

**High Performance Liquid Chromatography for Routine Monitoring of Serum Flecainide** .... 45

Rei Nakagawa (中川 励), Masato Homma, Keisuke Koga, Iwao Yamaguchi, Daisuke Kobayashi (小林大介), Yasunori Morimoto (森本雅憲), Yukinao Kohda

**Current Situation of the Additional Severe Adverse Effects of Marketed Medicine** ..... 46

Daisuke Kobayashi (小林大介), Nobuaki Kutsuma, Megumi Nakayama, Atsushi Ukon, Yuko Sashida (佐次田優子), Toshinari Endo (遠藤敏成), Hideo Ueda (上田秀雄), Sachihiko Numajiri (沼尻幸彦), Fusao Komada (駒田富佐夫), Yukiya Saitoh (齋藤侑也), and Yasunori Morimoto (森本雅憲)

**Development of a Computer Aided Information System to Provide Information of Adverse Effects to the Patient**..... 47

Toshinari Endo (遠藤敏成), Nobuaki Kutsuma, Daisuke Kobayashi (小林大介), Sachihiko Numajiri (沼尻幸彦), Hideo Ueda (上田秀雄), Fusao Komada (駒田富佐夫), Yukiya Saitoh (齋藤侑也), and Yasunori Morimoto (森本雅憲)

## Pharmacology and Toxicology

- Sex hormone-regulated renal transport of perfluorooctanoic acid ..... 48  
Naomi Kudo (工藤なをみ), Masanori Katakura (片倉賢紀),  
Yasunori Sato (佐藤靖典) and Yoichi Kawashima (川嶋洋一)
- Mechanisms of Gastric Mucus Secretion from Cultured Rat Gastric Epithelial Cells Induced by  
Carbachol, Cholecystokinin Octapeptide, Secretin, and Prostaglandin E<sub>2</sub>..... 49  
Satoru Tani (谷 覺), Teruo Suzuki (鈴木光生), Sayuri Kano (鹿野早夕里),  
Toru Tanaka, (田中 享) Katsuyosi Sunaga (須永克佳), Rie Morisige (森重利恵),  
and Tadashi Tsud (津田 整)
- Postnatal changes in ghrelin mRNA expression and in ghrelin-producing cells in the rat  
stomach..... 50  
I Sakata, T Tanaka(田中 享), M Matsubara, M Yamazaki, S Tani (谷 覺),  
Y Hayashi, K Kangawa and T Sakai
- Trifluoromethyl Ketones Show Culture Age-dependent Inhibitory Effects on Low K<sup>+</sup>-induced  
Apoptosis in Cerebellar Granule Neurons..... 51  
KATSUYOSHI SUNAGA (須永克佳), TORU TANAKA (田中 享), SATORU TANI (谷 覺)  
and MASAMI KAWASE (河瀬雅美)

## Nutraceutical

- Administration of beta-carotene suppresses lipid peroxidation in tissues and improves the  
glucose tolerance ability of streptozotocin-induced diabetic rats. .... 52  
Furusho T, Kataoka E, Yasuhara T, Wada M (和田政裕), Innami S.
- Dietary fiber suppresses elevations of uric acid and allantoin in serum and urine induced by  
dietary RNA and increases its excretion to feces in rats. .... 53  
Koguchi T, Nakajima H, Wada M (和田政裕), Yamamoto Y, Innami S, Maekawa A, Tadokoro T.
- Effects of dietary polyamines on the promotion of mammary tumor in rats. .... 54  
Masahiro Wada (和田政裕), Ulala Funada-Wada, Hiroshi Mano (真野 博),  
Mizuka Higashiguchi, Ryouta Haba, Shaw Watanabe, Shigezo Udaka



Effect of partially hydrolyzed curdlan on serum and hepatic cholesterol concentrations, and cecal fermentation in rats. ....	55
Jun Shimizu (清水 純), Masahide Oka, Keita Kudoh, Masahiro Wada (和田政裕), Toshichika Takita, Satoshi Innami, Tadahiro Tadokoro, Akio Maekawa	

Dietary curdlan suppresses dimethylhydrazine-induced aberrant crypt foci formation in Sprague-Dawley rats.....	56
Jun Shimizu (清水 純), Keita Kudoh, Masahiro Wada (和田政裕), Toshichika Takita, Satoshi Innami, Akio Maekawa, Tadahiro Tadokoro	

### Clinical Nutritional

Effect of Soy Protein Intake on High-fat induced Obesity and Insulin resistance.....	57
Nobuyo Tsunoda (角田伸代), Yuko Fujikane, Hyounju Kim (金 賢珠), Midori Ebata (江端みどり), Shinji Ikemoto (池本真二)	

成人のタンパク質必要量に及ぼすエネルギー制限と肥満度の影響.....	58
池本真二 (S. Ikemoto), 角田伸代 (N. Tsunoda), 江端みどり (M. Ebata), 東口みづか	

### 学長所管

平成 13 年度研究奨励金交付に伴う研究成果報告書

骨折及び骨粗鬆症の分子生物学的解析とその栄養学的予防法確立に関する研究.....	59
研究代表者 和田 政裕	

研究題目 医薬品の乳汁移行性予測に関する研究.....	66
病院薬剤学講座 小林大介 (Daisuke Kobayashi), 沼尻幸彦 (Sachihiko Numajiri)	

口頭発表及びシンポジウム.....	75
-------------------	----

著書・総説・Proceedings.....	96
------------------------	----

学位論文要旨.....	101
-------------	-----

高速気体を利用した薬物含有微粒子の皮内送達に関する研究.....	103
内田 昌希	

水溶性高分子の鼻粘膜吸収に対するポリ-L-アルギニンの促進機構に関する研究.....	106
大竹 一男	
多成分油性基剤を用いた酸性薬物の皮膚透過促進に関する研究.....	108
方 亮	
<b>大学院薬学研究科修士論文要旨</b> .....	111
<b>薬学専攻</b>	
ミセルを反応場とする両親媒性ヘリセンのキラリティーの誘起と変換.....	113
高市康宏	
ヘリセンをプローブとするグリセロリン脂質二分子膜によるキララル識別.....	113
吉田麻衣子	
結晶場によるキラリティーの制御    ラセミ結晶とエナンチオマー結晶.....	114
吉野順	
IS-MS によるポリアミン分析法の癌研究への応用.....	115
小林正樹	
緊急安全性情報提供前後の塩酸チクロピジン処方動向調査.....	116
石川 慎子	
ポリオキシエチレン硬化ヒマシ油添加によるポリ塩化ビニル製輸液セットからの ジエチルヘキシルフタレート溶出機構の検討.....	116
数野 史	
パップ剤の放出試験法の検討.....	117
向後 徹生	
フレカイニドの TDM に用いる血中濃度測定法の開発と臨床応用.....	118
中川 励	
保険薬としての漢方製剤の問題点.....	118
廣田 創	
培養ラット胃粘膜上皮細胞における 粘液分泌機構の研究及びムチン遺伝子クローニングの試み.....	119
鹿野 早夕里	
<b>著者索引</b> .....	121