

平成26年2月1日  
B60/rb

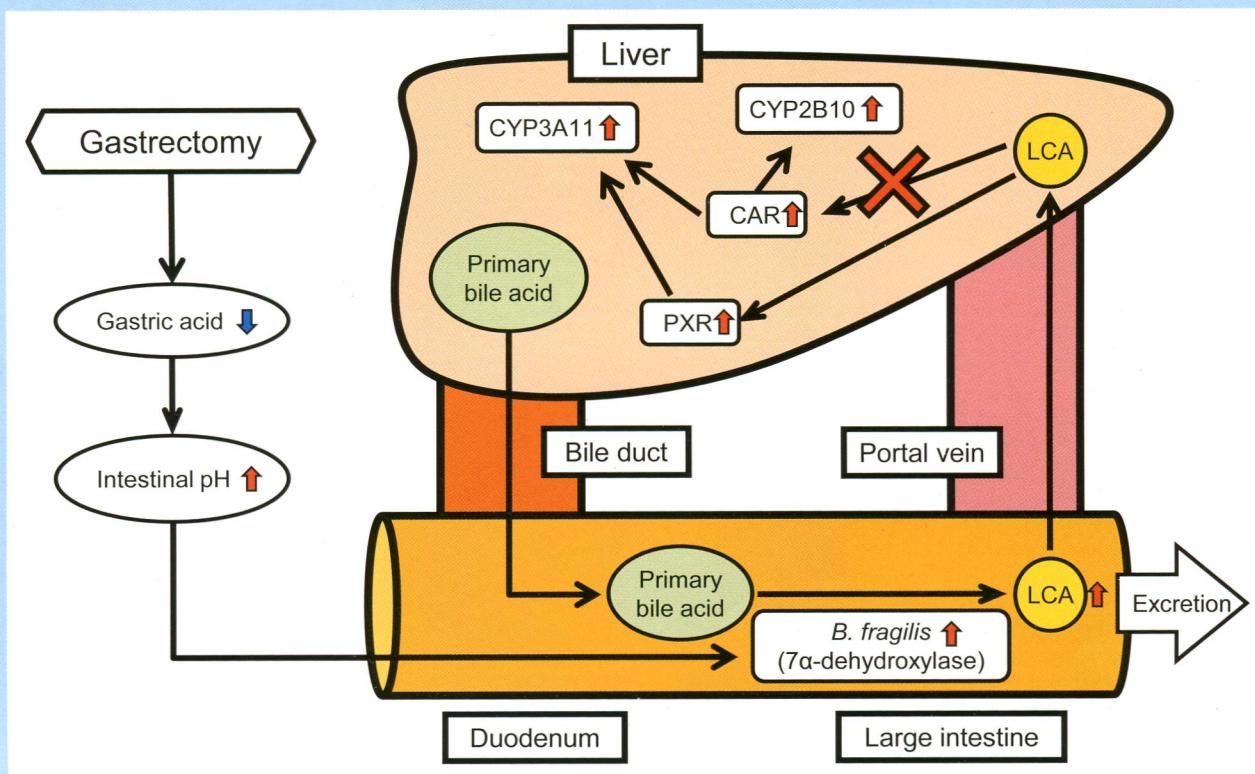
# Biological and Pharmaceutical Bulletin

February 2014

BPBLEO 37 (2) 185–334 (2014)

Vol. 37 No. 2

Biological and Pharmaceutical Bulletin succeeds to Journal of Health Science from 2012.



Cover Figure Gastrectomy Increases Hepatic CYP3A Expression

pp. 298–305

**Highlighted Paper • Human MATE1 Is Inhibited by Food Ingredients**  
(Tatsuya Kawasaki *et al.*) pp. 292–297

**Current Topics** Nanoparticles for Cancer Therapy



THE PHARMACEUTICAL SOCIETY OF JAPAN

<http://bpb.pharm.or.jp>

# Biological and Pharmaceutical Bulletin

Vol. 37, No. 2 February 2014

© Copyright, 2014, by the Pharmaceutical Society of Japan.

## Contents

### Review

- Adaptor Protein STAP-2 Modulates Cellular Signaling in Immune Systems  
Y. Sekine ..... 185

### Current Topics

- Nanoparticles for Cancer Therapy  
Foreword  
K. Kogure ..... 195
- Nanoparticles Consisting of Tocopheryl Succinate Are a Novel Drug-Delivery System with Multifaceted Antitumor Activity  
S. Hama and K. Kogure ..... 196
- Systemic Delivery of Small RNA Using Lipid Nanoparticles  
T. Asai and N. Oku ..... 201
- Selective Delivery of Oxaliplatin to Tumor Tissue by Nanocarrier System Enhances Overall Therapeutic Efficacy of the Encapsulated Oxaliplatin  
A. S. Abu Lila, H. Kiwada, and T. Ishida ..... 206
- Combination of Nanoparticles with Physical Stimuli toward Cancer Therapy  
S. Fumoto and S. Kawakami ..... 212

### Regular Articles

- Neuroprotective Effect of Ginkgolide K against H<sub>2</sub>O<sub>2</sub>-Induced PC12 Cell Cytotoxicity by Ameliorating Mitochondrial Dysfunction and Oxidative Stress  
S. Ma, X. Liu, Q. Xun, and X. Zhang ..... 217
- Effects on Serum Uric Acid by Difference of the Renal Protective Effects with Atorvastatin and Rosuvastatin in Chronic Kidney Disease Patients  
E. Kose, T. An, A. Kikkawa, Y. Matsumoto, and H. Hayashi ..... 226
- Antiemetic Effect of a Potent and Selective Neurokinin-1 Receptor Antagonist, FK886, on Cisplatin-Induced Acute and Delayed Emesis in Ferrets  
T. Y. Furukawa, H. Nakayama, K. Imazumi, H. Yamakuni, K. Takeshita, M. Matsuo, T. Manda, and W. Uchida ..... 232
- Comparative Study of Novel Ultra-deformable Liposomes: Mentosomes, Transfersomes and Liposomes for Enhancing Skin Permeation of Meloxicam  
S. Duangjit, Y. Obata, H. Sano, Y. Onuki, P. Opanasopit, T. Ngawhirunpat, T. Miyoshi, S. Kato, and K. Takayama ..... 239
- 20(S)-Ginsenoside Rh2 Induces Apoptosis in Human Leukaemia Reh Cells through Mitochondrial Signaling Pathways  
T. Xia, J.-C. Wang, W. Xu, L.-H. Xu, C.-H. Lao, Q.-X. Ye, and J.-P. Fang ..... 248
- (2S)-2'-Methoxykurarinone Inhibits Osteoclastogenesis and Bone Resorption through Down-Regulation of RANKL Signaling  
J.-Y. Kim, J. Y. Kim, J. J. Kim, J. Oh, Y.-C. Kim, and M. S. Lee ..... 255
- Novel Diagnostic Method of Peritoneal Injury Using Dual Macromolecular Markers  
H. Hirata, H. Miyamoto, K. Shimokawa, M. Nakashima, M. Nakayama, S. Fumoto, and K. Nishida ..... 262

Berberine Inhibits Fluphenazine-Induced Up-Regulation of <i>CDRI</i> in <i>Candida albicans</i> <b>S. Zhu, L. Yan, Y. Zhang, Z. Jiang, P. Gao, Y. Qiu, L. Wang, M. Zhao, T. Ni, Z. Cai, S. Tian, C. Zang, D. Zhang, and Y. Jiang</b>	268
Therapeutic Effects of Multifunctional Tetramethylpyrazine Nitrone on Models of Parkinson's Disease <i>in Vitro</i> and <i>in Vivo</i> <b>B. Guo, D. Xu, H. Duan, J. Du, Z. Zhang, S. M.Y. Lee, and Y. Wang</b>	274
Proton-Coupled Organic Cation Antiporter-Mediated Uptake of Apomorphine Enantiomers in Human Brain Capillary Endothelial Cell Line hCMEC/D3 <b>T. Okura, K. Higuchi, A. Kitamura, and Y. Deguchi</b>	286
* Components of Foods Inhibit a Drug Exporter, Human Multidrug and Toxin Extrusion Transporter 1 <b>T. Kawasaki, H. Ito, and H. Omote</b>	292
Gastrectomy Increases the Expression of Hepatic Cytochrome P450 3A by Increasing Lithocholic Acid-Producing Enteric Bacteria in Mice <b>M. Ishii, T. Toda, N. Ikarashi, Y. Kusunoki, R. Kon, W. Ochiai, Y. Machida, and K. Sugiyama</b>	298

### Notes

Histological Protection by Nilvadipine against Neurotoxicity Induced by NOC12, a Nitric Oxide Donor, in the Rat Retina <b>T. Kuroki, A. Mori, T. Nakahara, K. Sakamoto, and K. Ishii</b>	306
Detection of Antibodies to Human T-Cell Leukemia Virus Types 1 and 2 in Breast Milk from East Asian Women <b>F. Matsubara, Y. Sagara, Y. Kato, K. Harada, A. Koizumi, and K. Haraguchi</b>	311
Asterosaponins from the Starfish <i>Astropecten monacanthus</i> Suppress Growth and Induce Apoptosis in HL-60, PC-3, and SNU-C5 Human Cancer Cell Lines <b>N. P. Thao, B. T. T. Luyen, E.-J. Kim, H.-K. Kang, S. Kim, N. X. Cuong, N. H. Nam, P. V. Kiem, C. V. Minh, and Y. H. Kim</b>	315
Comparison of the Effects of Single Doses of Elecetonin and Pregabalin on Oxaliplatin-Induced Cold and Mechanical Allodynia in Rats <b>M. Aoki, Y. Kurauchi, A. Mori, T. Nakahara, K. Sakamoto, and K. Ishii</b>	322
Effects of Bupropion and Pramipexole on Cell Proliferation in the Hippocampus of Adrenocorticotrophic Hormone-Treated Rats <b>Y. Onoue, K. Kuwatsuka, I. Miyazaki, M. Asanuma, Y. Kitamura, and T. Sendo</b>	327
Xanthocidin Derivatives as Topoisomerase II $\alpha$ Enzymatic Inhibitors <b>S. Takeda, K. Yaji, K. Matsumoto, T. Amamoto, M. Shindo, and H. Aramaki</b>	331

**About the cover:** In patients with gastrectomy, the level of lithocholic acid (LCA) in the large intestine increased due to the increase in the pH of the gastrointestinal tract, which in turn causes the increase in the level of LCA-producing bacteria (*Bacteroides fragilis*). The LCA produced in the large intestine reaches the liver *via* the portal vein. In the liver, LCA binds to the pregnane X receptor (PXR) and the nuclear translocation of PXR occurs, eventually leading to an increase in the expression level of CYP3A. However, LCA was not involved in the increase in nuclear translocation level of constitutive androstane receptor (CAR). See the article by Ishii *et al.* on page 298 of this issue.

\* *Highlighted Paper selected by Editor-in-Chief*

The selection is based upon originality, scientific contributions, methodological pertinence, and composition.

## Author Index

Abu Lila, Amr Selim	206	Jiang, Yuan-ying	268	Manda, Toshitaka	232	Shimokawa, Kenta	262
Amamoto, Toshiaki	331	Jiang, Zhi-hui	268	Matsubara, Futoshi	311	Shindo, Mitsuru	331
An, Taesong	226			Matsumoto, Kenji	331	Sugiyama, Kiyoshi	298
Aoki, Manahito	322	Kang, Hee-Kyoung	315	Matsumoto, Yoshiaki	226		
Aramaki, Hironori	331	Kato, Satoru	239	Matsuo, Masahiko	232	Takayama, Kozo	239
Asai, Tomohiro	201	Kato, Yoshihisa	311	Minh, Chau Van	315	Takeda, Shuso	331
Asanuma, Masato	327	Kawakami, Shigeru	212	Miyamoto, Hirotaka	262	Takeshita, Koji	232
		Kawasaki, Tatsuya	292	Miyazaki, Ikuko	327	Thao, Nguyen Phuong	315
Cai, Zhan	268	Kiem, Phan Van	315	Miyoshi, Tsubasa	239	Tian, Shu-juan	268
Cuong, Nguyen Xuan	315	Kikkawa, Akihiko	226	Mori, Asami	306, 322	Toda, Takahiro	298
		Kim, Eun-Ji	315				
Deguchi, Yoshiharu	286	Kim, Jeong Joong	255	Nakahara, Tsutomu	306, 322	Uchida, Wataru	232
Du, Jing	274	Kim, Ju-Young	255	Nakashima, Mikiro	262		
Duan, Hongwei	274	Kim, Jung Young	255	Nakayama, Hiroe	232	Wang, Jian-Cheng	248
Duangjit, Sureewan	239	Kim, Sohyun	315	Nakayama, Morio	262	Wang, Liang	268
		Kim, Youn-Chul	255	Nam, Nguyen Hoai	315	Wang, Yuqiang	274
Fang, Jian-Pei	248	Kim, Young Ho	315	Ngawhirunpat, Tanasait	239		
Fumoto, Shintaro	212, 262	Kitamura, Atsushi	286	Ni, Ting-jun-hong	268	Xia, Ting	248
Furukawa, Takako		Kitamura, Yoshihisa	327	Nishida, Koyo	262	Xu, Daping	274
Yoshino	232	Kiwada, Hiroshi	206			Xu, Lu-Hong	248
		Kogure, Kentaro	195, 196	Obata, Yasuko	239	Xu, Wei	248
Gao, Ping-hui	268	Koizumi, Akio	311	Ochiai, Wataru	298	Xun, Qingrui	217
Guo, Baojian	274	Kon, Risako	298	Oh, Jaemin	255		
		Kose, Eiji	226	Oku, Naoto	201	Yaji, Kentaro	331
Hama, Susumu	196	Kurauchi, Yuki	322	Okura, Takashi	286	Yamakuni, Hisashi	232
Harada, Kouji	311	Kuroki, Taiyo	306	Omote, Hiroshi	292	Yan, Lan	268
Haraguchi, Koichi	311	Kusunoki, Yoshiki	298	Onoue, Yuka	327	Ye, Qi-Xiang	248
Hayashi, Hiroyuki	226	Kuwatsuka, Keiko	327	Onuki, Yoshinori	239		
Higuchi, Kei	286			Opanasopit, Praneet	239	Zang, Cheng-xu	268
Hirata, Haruna	262	Lao, Chong-Hui	248			Zhang, Da-zhi	268
		Lee, Myeung Su	255	Qiu, Yue	268	Zhang, Xiantao	217
Ikarashi, Nobutomo	298	Lee, Simon MingYuen	274			Zhang, Yan-xia	268
Imazumi, Katsunori	232	Liu, Xingyan	217	Sagara, Yasuko	311	Zhang, Zaijun	274
Ishida, Tatsuhiro	206	Luyen, Bui Thi Thuy	315	Sakamoto, Kenji	306, 322	Zhao, Ming-zhu	268
Ishii, Kunio	306, 322			Sano, Hiromu	239	Zhu, Shao-long	268
Ishii, Makoto	298	Ma, Shuwei	217	Sekine, Yuichi	185		
Ito, Hideyuki	292	Machida, Yoshiaki	298	Sendo, Toshiaki	327		