The 20th Annual Meeting of the Japanese Society for Alternatives to Animal Experiments

Date: December 8th and 9th, 2006 (Friday and Saturday).
Venue: Convention Hall and adjacent Foyer of General Research Experiment Building, Komaba II Campus, University of Tokyo
(Komaba 4-6-1, Meguro-ku, Tokyo 153-8505, Japan).
<table>
<thead>
<tr>
<th>Time</th>
<th>December 8 (Friday)</th>
<th>December 9 (Saturday)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Registration</td>
<td>Registration</td>
</tr>
<tr>
<td>9:00</td>
<td>Symposium 1</td>
<td>Symposium 2</td>
</tr>
<tr>
<td></td>
<td>&quot;Current Status of 3Rs in Asian Countries&quot;</td>
<td>&quot;Feasibilities of New Technologies for the Development of Alternative Tests&quot;</td>
</tr>
<tr>
<td></td>
<td>Chair: N. Kagiyama (CIEA)</td>
<td>Chair: T. Takezawa (NIAS)</td>
</tr>
<tr>
<td></td>
<td>Y. Ohno (NIHS)</td>
<td>M. Sekijima (Mitsubishi Chem. Safety Inst. Ltd.)</td>
</tr>
<tr>
<td>10:00</td>
<td>Lunch</td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>(Council, 403 room)</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td>Lunch</td>
<td>Luncheon Symposium</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&quot;Development of Nanobio-devices for the Alternative to Animal Experiments and their Applications to Evaluating and Developing &quot;Life-Care Products&quot;T. Eiichi (JAIST), O. Hori, F. Takano (Univ. of Kanazawa), Chair: T. Monzen (ISICO)</td>
</tr>
<tr>
<td>12:00</td>
<td>Special Lecture</td>
<td>JSAAE General Meeting</td>
</tr>
<tr>
<td></td>
<td>&quot;ECVAM’S Role in Making Alternative Methods Available for New European Legislation&quot; T. Hartung (ECVAM)</td>
<td>Awards Ceremony</td>
</tr>
<tr>
<td></td>
<td>Chair: M. Hayashi (NIHS)</td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td>Poster Presentation</td>
<td>Special Session 2</td>
</tr>
</tbody>
</table>
|       |                                                         | "1st Challenge Contest for Alternative Tests
- New Activities in High Schools and Junior High Schools" |
|       |                                                         | Chair: M. Akita (Kamakura Women’s Univ.)                  |
|       |                                                         | H. Okumura (Novel Co., Ltd.)                             |
|       |                                                         | J. Ohuchi (Kao Co.)                                     |
| 14:00 | Special Session 1                                       |                                                         |
|       | "Current Status of Alternative Methods"                 |                                                         |
|       | Chair: L. M. Schechtman (US-FDA)                         |                                                         |
|       | M. Hayashi (NIHS)                                       |                                                         |
| 15:00 |                                                         |                                                         |
| 16:00 |                                                         |                                                         |
| 17:00 |                                                         |                                                         |
| 18:00 | Banquet (~ 20:00)                                      |                                                         |
December 8, 2006

9:00-11:30 (Convention hall)
Symposium 1: Current Status of 3Rs in Asian Countries
S1-1 Sophisticated in vivo research based on the 3R-principle
Naoko Kagiyama and Tatsuji Nomura (Central Institute for Experimental Animals, Japan)

S1-2 3Rs in India: Past, Present and Future
Mandeep S. Dhingra (Government Med. College, India)

S1-3 Current Status of 3Rs in China
He Zhengming¹, Li Guanmin¹, Yue Bingfei¹, Ahang Baoxu², Zhao Demin³ (¹National Institute for the Control of Pharmaceutical and Biological Product, P. R. China, ²Beijing University, P. R. China, ³Chinese Agriculture University, P. R. China)

S1-4 Current Status of Alternative Study in NITR (National Institute of Toxicological Research)
Park Kuilea (NITR, KFDA, Korea)

11:30-12:30 (Room No.403)
Council

12:30-13:30 (Convention hall)
Special Lecture
SL ECVAM’S Role in Making Alternative Methods Available for New European Legislation
T. Hartung (ECVAM)

13:30-15:30
Poster Presentation

15:30-18:00 (Convention hall)
Special Session 1: Current Status of Alternative Methods
First Session: International Situations
T-1 The evaluation of alternative test methods by ICCVAM – Current practices and activities
L. M. Schechtman (Chair of ICCVAM, Deputy Director, National Center for Toxicological Research, US-FDA)

T-2  **Actions of NICEATM toward 3Rs** (Tantative)
R. Tice (NICEATM)

T-3  **Actions of ECVAM toward 3Rs** (Tantative)
T. Hartung (ECVAM)

**Second Session: Domestic Situations**

T-4  **Action of Ministry of Health, Labour, and Welfare (MHLW), Japan**
Under negotiation

T-5  **Introduction of Validation Projects Organized by JaCVAM** (Tantative)
Hajime Kojima (JaCVAM)

T-6  **Action of Ministry of Economy, Trade, and Industry (METI), Japan**
Takeru Numadate (METI)

T-7  **Development of an in vitro Carcinogenicity Test in the METI/NEDO Project**
Noriho Tanaka (Food & Drug Safety Ctr.)

*Discussion is not carried out.*

**18:30-20:00**
Banquet
December 9, 2006

9:00-11:30 (Convention hall)
Symposium 2: Feasibilities of New Technologies for the Development of Alternative tests

S2-1 Development of culture models for extrapolating the cell response in vitro
Toshiaki Takezawa (National Institute of Agrobiological Sciences)

S2-2 Micropatterning of cell spherids with tissue like function
Hidenori Otsuka (Tokyo University of Science)

S2-3 Functional analysis of hepatocytes differentiated from human mesenchymal stem cells
Takahiro Ochiya (National Cancer Center Research Institute)

S2-4 In vitro and in silico phospholipidosis assay: Utilization in the early stage of drug discovery
Hiroshi Yamada, Kaori Tomizawa, and Ikuo Horii (Pfizer Global Research & Development Nagoya Laboratories)

S2-5 Quantitative prediction of pharmacokinetic alterations caused by drug-drug interactions using a computer program
Yoshihisa Shitara1, Motohiro Kato2, Masato Kitajima3, J. M. Ciloy3, Masaru Hirano4, Kunihiro Yoshisue4, Toshihiko Ikeda5, Satoshi Suzuki6, Toshiharu Horie1, and Yuichi Sugiyama4 (1Chiba University, 2Chugai Pharmaceutical Co., Ltd., 3Fujitsu Kyushu System Engineering, 4University of Tokyo, 5Sankyo Co., Ltd., and 6HAB Research Organization)

12:00-13:00
Luncheon Symposium, Supported by ISICO:
Development of Nanobiodevices for Alternative to Animal Experiments and their Applications to Evaluating and Developing “Life-Care Products”

LS Development of cell-based biochips for alternative animal experiments
Eiichi Tamiya (JAIST)

Application of endoplasmic reticulum (ER) stress regulation to evaluating and
developing “life-care products”
Osamu Hori (University of Kanazawa)

Development of alternative methods to animal experiments for screening immunopotentiators and bioactive natural products
Fumihide Takano (University of Kanazawa)

13:00-14:00 (Convention hall)
JSAAE General Meeting

15:00-17:00 (Convention hall)
Special Session 2, Supported by Noevier Co., Ltd.
1st challenge contest for alternative tests
–New activities in high schools and junior high schools–
Poster session

P-01 Effect of ginnema (GIM) on rat embryos cultured in vitro

P-02 Effect of devil crow (DC) on rat embryos cultured in vitro

P-03 Effect of torikoenol (TRE) on rat embryos cultured in vitro

P-04 Development of in vitro embryotoxicity testing by differentiation of ES cells using glass fiber material
Koichi Imai and Masaaki Nakamura (Osaka Dental Univ.)

P-05 Anxiolytic Effects of Kava (Piper Methysticum) in Mice
Ashkan Mowla and Reza Gherebaghi (Iran and Shahed University, Iran)

P-06 A study of alternative method for the eye irritation test with reconstruction of multilayer system of rabbit corneal epithelial cells in vitro
Y. Maeda¹, T. Niki¹, K. Furumoto³, T. Furukawa³, K. Takehana³, H. Ueda³, and N. Ito⁴ (¹ArBlast Co., Ltd., ²Kurashiki Univ. Sci. Arts, ³Rakuno Gakuen Univ., and ⁴Yokohama City Univ.)

P-07 Usefulness and inter-laboratory study of short time exposure (STE) method for evaluation of eye irritation potential using 51 chemicals
Yutaka Takahashi¹, Takumi Hayashi², Mirei Ozeki¹, Yuichi Ito¹, Hirofumi Kuwahara², Hitoshi Sakaguchi¹, and Hiroyuki Suzuki¹ (¹Kao Co. and ²Kanebo Cosmetic Inc.)
P-08 Species differences of skin permeation and in vitro permeation using human nail plate
Hiroo Moriyama, Kenji Tasaki, Tomoya Ueda, Kaori Kawakami, Chiemi Irita, and Kenji Sugimoto (Panapharm Lab. Co., Ltd.)

P-09 Evaluation of skin irritation using cultured cells
Hiroshi Ishii\textsuperscript{1}, Ryo Fujiki\textsuperscript{1}, Yoshifumi Takinoue\textsuperscript{1}, Satoshi Kano\textsuperscript{2}, Hiroaki Todo\textsuperscript{1}, and Kenji Sugibayashi\textsuperscript{1} (\textsuperscript{1}Josai Univ. and \textsuperscript{2}Maruho Co., Ltd.)

P-10 Basic feature analysis of human 3-dimensional keratinocyte and melanocyte co-cultured epidermal model (LabCyte MELANO-MODEL)
Fumiyasu Hamajima, Masakazu Kato, Yuki Ito, Kentaro Kubo, Tomomi Shigeta, and Ken-ichiro Hata (Japan Tissue Engineering Co., Ltd.)

P-11 Assessment of the human epidermal model LabCyte EPI-MODEL for the in vitro corrosion testing according to OECD TG431
Masakazu Kato\textsuperscript{1}, Fumiyasu Hamajima\textsuperscript{1}, Yuki Ito\textsuperscript{1}, Kentaro Kubo\textsuperscript{1}, Kenichiro Hata\textsuperscript{1}, Mio Nakamura\textsuperscript{2}, and Shinsuke Shinoda\textsuperscript{2} (\textsuperscript{1}Japan Tissue Engineering Co., Ltd. and \textsuperscript{2}Drug Safety Testing Center Co., Ltd.)

P-12 The correlation between apoptosis and CD86/54 expression induced by contact sensitizers on THP-1 cells
Kei Kusai, Makoto Mizuno, Noriyasu Imai, and Yuko Okamoto (KOSÉ Co.)

P-13 Development of alternative photosensitization assay using human monocyte-derived cells
Masatoshi Hoya, Morihiko Hirota, Mie Suzuki, Shigenobu Hagino, and Hiroshi Itagaki (Shiseido Co., Ltd.)

P-14 Development of 3D-culture model of THP-1 cell for evaluating insoluble test samples
Makie Ishikawa, Takao Ashikaga, Shigenobu Hagino, and Hiroshi Itagaki (Shiseido Co., Ltd.)
P-15 Results of a Japanese ring study of a human Cell Line Activation Test (h-CLAT) for predicting skin sensitization potential (2nd Report): A study of a criteria for THP-1 cell selection.

Nanae Kosaka¹, Kenji Okamoto², Hirofumi Kuwahara², Makoto Mizuno³, Yuko Okamoto³, Sakiko Sono⁴, Takaaki Yamada⁵, Seiji Hasegawa⁵, Mayumi Yoshida⁶, Naoko Ota⁶, Tatsuji Kodama⁷, Jun Sato⁷, Hitoshi Sakaguchi¹, Takao Ashikaga⁴, and Yasuo Ohno⁸ (¹Kao Co., ²Kanebo Cosmetic Inc., ³KOSÉ Co., ⁴Shiseido Co., Ltd., ⁵Nippon Menard Cosmetic Co., Ltd., ⁶POLA Chemical Ind. Inc., ⁷Lion Co., and ⁸Natl. Inst. of Health Sci.)

P-16 Results of a Japanese ring study of a human Cell Line Activation Test (h-CLAT) for predicting skin sensitization potential (3rd Report): The effect of serum difference

Sakiko Sono¹, Takaaki Yamada², Seiji Hasegawa², Nanae Kosaka³, Kenji Okamoto⁴, Hirofumi Kuwahara⁴, Makoto Mizuno⁵, Yuko Okamoto⁵, Mayumi Yoshida⁶, Naoko Ota⁶, Tatsuji Kodama⁷, Jun Sato⁷, Hitoshi Sakaguchi³, Takao Ashikaga¹, and Yasuo Ohno⁸ (¹Shiseido Co., Ltd., ²Nippon Menard Cosmetic Co., Ltd., ³Kao Co., ⁴Kanebo Cosmetic Inc., ⁵KOSÉ Co., ⁶POLA Chemical Ind. Inc., ⁷Lion Co., and ⁸Natl. Inst. of Health Sci.)

P-17 Results of a Japanese ring study of a human Cell Line Activation Test (h-CLAT) for predicting skin sensitization potential (4th Report): Effects of pre-culture conditions

Makoto Mizuno¹, Mayumi Yoshida², Tatsuji Kodama³, Jun Sato³, Naoko Ota², Yuko Okamoto¹, Nanae Kosaka⁴, Kenji Okamoto⁵, Hirofumi Kuwahara⁵, Sakiko Sono⁶, Takaaki Yamada⁷, Seiji Hasegawa⁷, Hitoshi Sakaguchi⁴, Takao Ashikaga⁶, and Yasuo Ohno⁸ (¹KOSÉ Co., ²POLA Chemical Ind. Inc., ³Lion Co., ⁴Kao Co., ⁵Kanebo Cosmetic Inc., ⁶Shiseido Co., Ltd., ⁷Nippon Menard Cosmetic Co., Ltd., and ⁸Natl. Inst. of Health Sci.)

P-18 Inter-laboratory validation study on LLNA-DA

Takashi Omori¹, Kenji Idehara², Hajime Kojima³, Takashi Sozu⁴, Kazunori Arima⁵, Hirohiko Goto⁶, Tomohiko Hanada⁷, Yoshiaki Ikarashi³, Taketo Inoda⁸, Yukiko Kanazawa⁹, Tadashi Kosaka¹⁰, Eiji Maki¹¹, Takashi Morimoto¹², Shinsuke Shinoda¹³, Naoki Shinoda¹⁴, Masahiro Takeyoshi¹⁵, Masashi Tanaka¹⁶, Mamoru Uratani¹⁷, Masahito Usami¹⁸, Atsushi Yamanaka¹⁹, Tomofumi Yoneda²⁰, Isao
Yoshimura\textsuperscript{21}, and Atsuko Yuasa\textsuperscript{22} (\textsuperscript{1}Kyoto Univ., \textsuperscript{2}Daicel Chemical Industries, Ltd., \textsuperscript{3}Natl. Inst. of Health Sci., \textsuperscript{4}Osaka Univ., \textsuperscript{5}Taisho Pharmaceutical Co., Ltd., \textsuperscript{6}Otsuka Pharmaceutical Co., Ltd., \textsuperscript{7}Nippon Shinyaku Co., Ltd., \textsuperscript{8}Nakano Seiyaku Co., Ltd., \textsuperscript{9}Food and Drug Safety Center, \textsuperscript{10}Inst. of Environ. Toxicol., \textsuperscript{11}Biosafety Res. Center, Food Drugs and Pesticides, \textsuperscript{12}Sumitomo Chemical Co., Ltd., \textsuperscript{13}Drug Safety Testing Center Co., Ltd., \textsuperscript{14}Santen Pharmaceutical Co., Ltd., \textsuperscript{15}Chemicals Evaluation and Res. Inst., \textsuperscript{16}MEIJI SEIKA KAISHA, Ltd., \textsuperscript{17}Ishihara Sangyo Kaisha, Ltd., \textsuperscript{18}Hoyu Co., Ltd., \textsuperscript{19}Pias Co., \textsuperscript{20}TOAEIYO Ltd., \textsuperscript{21}Tokyo Univ. of Sci., and \textsuperscript{22}Fuji Film Co., Ltd.)

P-19 Effect of test condition of \textit{in vitro} sensitization assay using changes of cell surface thiols as a biomarker (SH-Test)
Morihiko Hirota\textsuperscript{1}, Mie Suzuki\textsuperscript{1}, Shigenobu Hagino\textsuperscript{1}, Hiroshi Itagaki\textsuperscript{1}, and Setsuya Aiba\textsuperscript{2} (\textsuperscript{1}Shiseido Co., Ltd. and \textsuperscript{2}Tohoku Univ.)

P-20 Construction of decision tree of \textit{in vitro} sensitization assay using changes of cell surface thiols as a biomarker (SH-Test)
Mie Suzuki\textsuperscript{1}, Morihiko Hirota\textsuperscript{1}, Shigenobu Hagino\textsuperscript{1}, Hiroshi Itagaki\textsuperscript{1}, and Setsuya Aiba\textsuperscript{2} (\textsuperscript{1}Shiseido Co., Ltd. and \textsuperscript{2}Tohoku Univ.)

P-21 Current studies on alternative methods in AMOREPACIFIC Corp.
Byung-Fhy Suh, Seong-Joon Moon, Su-Sun An, Seo-Young Kim, and Ih-Seop Chang (Skin Inst. AMOREPACIFIC R&D Center)

P-22 Construction of three-dimensional human skin model consisting of dendritic cells and \textit{in vitro} evaluation of immune-sensitizers
Tadashi Uchino\textsuperscript{1}, Toshiaki Takezawa\textsuperscript{2}, Yoshiaki Ikarashi\textsuperscript{1}, and Hiroshi Tokunaga\textsuperscript{1} (\textsuperscript{1}Natl. Inst. of Health Sci. and \textsuperscript{2}Natl. Inst. of Agrobiol. Sci.)

P-23 A novel technology for differentiating embryonic stem cells into hepatocyte-like cells by utilizing the section substrata prepared from regenerating liver tissues
Tomoyo Takeuchi\textsuperscript{1}, Takumi Teratani\textsuperscript{2}, Takahiro Ochiya\textsuperscript{2}, and Toshiaki Takezawa\textsuperscript{1} (\textsuperscript{1}Natl. Inst. Agrobiol. Sci., and \textsuperscript{2}Natl. Cancer Center Res. Inst.)
P-24 Cell behaviors of two different cell lines on the section substrata prepared from rat organs and their mathematical models
Kana Yanagihara¹, ², Tomoyo Takeuchi¹, Satoshi Terada², Masao Miki², and Toshiaki Takezawa¹ (¹Natl. Inst. Agrobiol. Sci., and ²Univ. of Fukui)

P-25 The possibility of chemical computation approaches to chemical photosafety evaluation
Y. Zhou, A. Ishibashi, M. Sakimura, M. Fujikawa, H. Yamada, and I Horii (Pfizer Inc.)

P-26 Development of the in silico prediction system for the safety of chemicals (the first report) –Prediction of the skin sensitization potential and the risk assessment using local lymph node assay (LLNA)-
Katsurako Yoneyama and Hirokazu Kouzuki (Shiseido Co., Ltd.)

P-27 Development of the in silico prediction system for the safety of chemicals (the second report) -Prediction of the skin irritation potential and risk assessment using human patch test-
Hirokazu Kouzuki and Katsurako Yoneyama (Shiseido Co., Ltd.)

P-28 A measure for inter-laboratory variation of the simulation index
Takashi Omori¹ and Takashi Sozu² (¹Kyoto Univ. and ²Osaka Univ.)

P-29 A statistical method for evaluating transferability of an alternative test method to animal experiments
Yohei Hyodo¹, Takashi Sozu², Takashi Omori³, Chikuma Hamada¹, and Isao Yoshimura¹ (¹Tokyo Univ. of Sci., ²Osaka Univ., and ³Kyoto Univ.)

P-30 Study on the optimality of material allocation design in the validation study of alternative assay to animal experiments
Masayuki Takanuma¹, Takashi Sozu², Takashi Omori³, Chikuma Hamada¹, and Isao Yoshimura¹ (¹Tokyo Univ. of Sci., ²Osaka Univ., and ³Kyoto Univ.)
P-31 A statistical method for estimating ET50 using alternatives to skin irritation testing
Takashi Sozu¹, Ayako Shiraishi², Yohei Hyodo³, Chikuma Hamada³, and Isao Yoshimura³ (¹Osaka Univ., ²Janssen Pharmaceutical K. K., and ³Tokyo Univ. of Sci.)

P-32 Neutral red uptake phototoxicity assay of methylparaben in Balb/c 3T3 mouse fibroblasts
Masaya Kitayama¹, Satoshi Kashiwagi¹, Tomoko Sakurai¹, and Christopher P. Sambuco² (¹Ueno Fine Chemicals Ind. Ltd. and ²Charles River Laboratories Preclinical Services)

P-33 A genotoxicity test system based on the p53 transcriptional activity in a human lung epidermal cell line
Ryo Okubo¹, Masaki Nishikawa¹, Nobuhiko Kojima¹, Kikuo Komori¹, Katsutoshi Ohno², Yukimasa Azuma², Yukio Yoneda², and Yasuyuki Sakai¹ (¹Univ. of Tokyo and ²Nissin Food Products Co., Ltd.)

P-34 Development of the alternative method for renal drug excretory mechanism using Xenopus oocyte expression system
Takeshi Sakata¹, Naohiko Anzai², Naoko Ohtsu¹, Shiichi Narikawa¹, Yoshikatsu Kanai², and Hitoshi Endo¹,² (¹Fuji Biomedix Inc. and ²Kyorin Univ.)

P-35 Gene expression in transformed cells
H. Hirose, T. Suhara, Y. Kawakami, K. Inoue, K. Nakayama, and M. Sekijima (Mitsubishi Chemical Safety Institute Ltd.)

P-36 Automated in vitro micronucleus analysis
Daisuke Kajiwara (GE Healthcare Bio-Sciences K. K.)

P-37 Development of Japanese medaka embryo cDNA microarray and its application in risk assessment of endocrine disrupting chemicals
Ikumi Hirakawa¹, Yoshihiro Kagami¹, and Ichiro Yamashita² (¹Ecogenomics, Inc. and ²Hiroshima Univ.)
P-38 Application of DNA microarray to search for new sensitization markers
   Takaaki Yamada¹,², Seiji Hasegawa¹,², Hirohiko Akamatsu², Naoki Yamamoto², Hirotake Yamaguchi¹, Izumi Ishii¹, Kayoko Matsunaga², and Satoru Nakata¹
   (¹Nippon Menard Cosmetic Co., Ltd. and ²Fujita Health Univ. School of Med.)

P-39 Modification poly-dimethylsiloxane (PDMS) surfaces suitable for the culture of primary rat hepatocytes
   Masaki Nishikawa, Nobuhiko Kojima, Takatoki Yamamoto, Teruo Fujii, and Yasuyuki Sakai (Univ. of Tokyo)

P-40 Cell transfer printing technology
   Hideshi Hattori¹,², Norihiko Okochi², Masatoshi Kuroda², and Masahiko Hase²
   (¹Tokyo Med. Dental Univ. and ²Dai Nippon Printing Co., Ltd.)

P-41 Application of inkjet printing technology for 3D cell patterning
   Chizuka Henmi¹, Makoto Nakamura¹,², and Yuichi Nishiyama¹ (¹Kanagawa Acad. of Sci. and Technol. and ²Tokyo Medical and Dental Univ.)

P-42 Development of cell-based array chips immobilizing different number of liver cells
   Jun Nada, Kikuo Komori, Tetsu Tatsuma, and Yasuyuki Sakai (Univ. of Tokyo)