



# 日本安全性薬理研究会

Japanese Safety Pharmacology Society

## Poster sessions

### 1\*. Evaluation of the autonomic nervous system under single- and group-housing with 'next generation' digital implantable telemetry in canine

○Katsuhiko SAKAI, Yoshiharu TSURU  
Application Support Dept., Primetech Co., Ltd.

### 2\*. Cardiovascular effects of a novel compound M201-A in the *in vivo* canine models

○Yuji NAKAMURA<sup>1)</sup>, Kunio IWATA<sup>2)</sup>, Koki CHIBA<sup>3)</sup>, Nur Jaharat LUBNA<sup>3)</sup>, Xin CAO<sup>3)</sup>, Takeshi WADA<sup>1)</sup>, Hiroko IZUMI-NAKASEKO<sup>1)</sup>, Kentaro ANDO<sup>1),3)</sup>, Atsuhiko T. NAITO<sup>1),3)</sup>, Noboru KANEKO<sup>2),4)</sup>, Atsushi SUGIYAMA<sup>1),3)</sup>

1) Department of Pharmacology, Faculty of Medicine, Toho University, 2) Aetase Pharma Co., Ltd., 3) Department of Pharmacology, Toho University Graduate School of Medicine, 4) Dokkyo Medical University

### 3\*. Electropharmacological effects of amitriptyline on the *in situ* canine hearts: Quantitative analysis of its potential for inducing acquired-type long QT syndrome and brugada syndrome

○Nur Jaharat LUBNA<sup>1)</sup>, Takeshi WADA<sup>1)</sup>, Koki CHIBA<sup>1)</sup>, Xin CAO<sup>1)</sup>, Yuji NAKAMURA<sup>1),2)</sup>, Hiroko IZUMI-NAKASEKO<sup>1)</sup>, Kentaro ANDO<sup>1)</sup>, Atsuhiko T. NAITO<sup>1)</sup>, Yoshioki SATO<sup>2)</sup>, Atsushi SUGIYAMA<sup>1),2)</sup>

1) Department of Pharmacology, Faculty of Medicine, Toho University, 2) Yamanashi Research Center of Clinical Pharmacology

### 4. Effects of sotalol, terfenadine and verapamil on ECG parameters in anaesthetized Göttingen minipigs

○Norio ODAGIRI, Kennosuke AKIYAMA, Yousuke OCHIAI, Kanta KAWABATA, Takashi HIRASHIMA, Hideomi UCHIDA, Yasuyuki OONISHI, Hideaki HIRATSUKA  
Nonclinical Research Center, Drug Development Service Segment, LSI Medience Corporation

### 5. Cardiovascular examination in socially housed dogs with advanced telemetry system

○Kennosuke AKIYAMA, Kanta KAWABATA, Yoshinori YAMAMOTO, Hideomi UCHIDA, Yasuyuki OONISHI, Hideaki HIRATSUKA  
Nonclinical Research Center, Drug Development Service Segment, LSI Medience Corporation

### 6. Japan activity for improvement of cardiovascular evaluation by telemetry system (J-ICET)\_BP/HR: Establishment of promising hemodynamic assessment criteria in non-rodents by considering the physiological variation range

○Toshiki KAGAWA<sup>1),3)</sup>, Ryouta HAYASHI<sup>1),4)</sup>, Kengo SAKAMOTO<sup>1),5)</sup>, Hiromi NEGISHI<sup>1),6)</sup>, Hisashi NOGAWA<sup>1),7)</sup>, Fuminori MATSUBARA<sup>1),8)</sup>, Yoshiyuki MOTOKAWA<sup>1),9)</sup>, Kenta WATANABE<sup>1),10)</sup>, Yuko SEMI<sup>1),11)</sup>, Toshio HASHIMOTO<sup>2),3)</sup>, Jun HANDA<sup>2),12)</sup>, Yukio TAKAHASHI<sup>2),13)</sup>, Akihiro KANNO<sup>1),8)</sup>, Harushige OZAKI<sup>1),4)</sup>, Katsuyoshi CHIBA<sup>1),14)</sup>

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## 7. Cardiovascular parameters in socially housed cynomolgus monkeys

○Tsuyoshi UCHINO, Takanobu MOCHIDOME, Hikaru FUKUDA, Motoki HIJIOKA, Tatsuya JIKUZONO, Yoshiki DEGUCHI

Drug Safety Research Laboratories, Shin Nippon Biomedical Laboratories, Ltd.

## 8. Japan activity for improvement of cardiovascular evaluation by telemetry system (J-ICET)\_ECG: Inter-facility variability assessment of moxifloxacin-induced QT prolongation in telemetered monkey study

○Hiroshi MIZUNO<sup>1),3)</sup>, Ryuichi KOMATSU<sup>1),4)</sup>, Tomomichi ISHIZAKA<sup>1),5)</sup>, Akihito ITO<sup>1),6)</sup>, Tatsuya JIKUZONO<sup>1),7)</sup>, Tadashi KAKOI<sup>1),8)</sup>, Yukio TAKAHASHI<sup>2),9)</sup>, Jun HANDA<sup>2),10)</sup>, Masahiro BANDO<sup>2),3)</sup>, Tadashi KOGA<sup>2),7)</sup>, Akihiro KANNO<sup>1),11)</sup>, Harushige OZAKI<sup>1),12)</sup>, Katsuyoshi CHIBA<sup>1),5)</sup>

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## 9. Study on the effects of animals with arrhythmia in the cardiovascular test of safety pharmacology studier

○Yasuo NAKAMURA, Masakazu IMAIZUMI, Kazuaki SASAKI, Tsuyoshi HIGUCHI, Katsuhide NISHI  
Pharmacology Department, Nonclinical Research Center, Drug Development Service Segment, LSI Medience Corporation

## 10. Japan activity for improvement of cardiovascular evaluation by telemetry system (J-ICET)\_ECG: Proposal of the advanced approach for drug-induced arrhythmogenicity in monkeys toward the early clinical QT assessment

○Ryuichi KOMATSU<sup>1),3)</sup>, Hiroshi MIZUNO<sup>1),4)</sup>, Tomomichi ISHIZAKA<sup>1),5)</sup>, Akihito ITO<sup>1),6)</sup>, Tatsuya JIKUZONO<sup>1),7)</sup>, Tadashi KAKOI<sup>1),8)</sup>, Yukio TAKAHASHI<sup>2),9)</sup>, Jun HANDA<sup>2),10)</sup>, Masahiro BANDO<sup>2),4)</sup>, Tadashi KOGA<sup>2),7)</sup>, Akihiro KANNO<sup>1),11)</sup>, Harushige OZAKI<sup>1),12)</sup>, Katsuyoshi CHIBA<sup>1),5)</sup>

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## 11. Two type new frequency analyses of R-R interval variability after surgery in cynomolgus monkeys

○Takuto YOKOTA, Tadashi KAKOI, Kiyotaka HOSHIAI, Yasuki AKIE  
CMIC Pharma Science Co., Ltd.

## 12. Evaluation of behavioral quantitative analysis of cynomolgus monkey in next generation telemetry transmitter with three axis acceleration sensor

○Katsuhiko SAKAI<sup>1)</sup>, Yoshiharu TSURU<sup>1)</sup>, Takashi HIRASHIMA<sup>2)</sup>

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## 13\*. Chronic effects of anticancer drugs on contractile behaviors of human-induced pluripotent stem cell-derived cardiomyocyte monolayers evaluated noninvasively with an image-based analysis

○Kohei SAKATOKU<sup>1)</sup>, Masami KODAMA<sup>2)</sup>, Yasuanri KANDA<sup>3)</sup>, Yasuhiro YAMAZAKI<sup>1)</sup>, Yuko SEKINO<sup>3)</sup>, Junko KUROKAWA<sup>1),2)</sup>

1) Univ. Shizuoka, Sch. Pharmaceutical Sciences, 2) Tokyo Medical and Dental Univ., Medical Research Institute, 3) National Institute of Health Science, Div., Pharmacology

## 14\*. Functional evaluation of cardiac types of cardiomyocytes using cell motion imaging

○ Yui SUZUKI<sup>1)</sup>, Kentaro TAKAHASHI<sup>2)</sup>, Masami KODAMA<sup>2)</sup>, Yasuanri KANDA<sup>2),3)</sup>, Masahiko YAMAGUCHI<sup>1)</sup>, Tomohiro HAYAKAWA<sup>4)</sup>, Eriko MATSUI<sup>4)</sup>, Tetsushi FURUKAWA<sup>2)</sup>, Junko KUROKAWA<sup>1),2)</sup>

1) Univ. Shizuoka, Sch. Pharmaceutical Sciences, 2) Tokyo Medical and Dental Univ., Medical Research Institute, 3) National Institute of Health Science, Div., Pharmacology, 4) Sony Corporation

## 15\*. Characterization of drug responses in MiraCell™ cardiomyocytes, a new product of iPS cell-derived cardiomyocytes

○ Toshikazu NISHIE<sup>1)</sup>, Yasuhiro TOSAKA<sup>1)</sup>, Toshiyuki MIURA<sup>1)</sup>, Asako HATSUYAMA<sup>1)</sup>, Hiroyuki FUKUSHIMA<sup>2)</sup>, Masahide KAWATO<sup>2)</sup>, Tatsuji ENOKI<sup>1)</sup>, Jyun K YAMASHITA<sup>2)</sup>, Jyunichi MINENO<sup>1)</sup>

1) CDM center, TAKARA BIO. INC., 2) Laboratory of Stem Cell Differentiation, Department of Cell Growth & Differentiation, Center for iPS cell research and application (CiRA), Kyoto University

## 16\*. Electrophysiological and pharmacological characterization of human iPS cell-derived cardiomyocytes for assessing drug-induced proarrhythmic potential

○Wataru YAMAMOTO<sup>1),2)</sup>, Keiichi ASAKURA<sup>1),3)</sup>, Hiroyuki ANDO<sup>1),4)</sup>, Tomohiko TANIGUCHI<sup>1),5)</sup>, Atsuko OJIMA<sup>1),5)</sup>, Takaaki UDA<sup>1),4)</sup>, Tomoharu OSADA<sup>1),6)</sup>, Seiji HAYASHI<sup>1),3)</sup>, Chieko KASAI<sup>1),7)</sup>, Norimasa MIYAMOTO<sup>1),5)</sup>, Hiroyuki TASHIBU<sup>1),8)</sup>, Takashi YOSHINAGA<sup>1),5)</sup>, Daiju YAMAZAKI<sup>1),9)</sup>, Atsushi SUGIYAMA<sup>1),10)</sup>, Yasunari KANDA<sup>1),9)</sup>, Kohei SAWADA<sup>1),5)</sup>, Yuko SEKINO<sup>1),9)</sup>

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7) Astellas Pharma Inc., 8) Ina Research Inc., 9) National Institute of Health Sciences (NIHS), 10) Department of Pharmacology, Faculty of Medicine, Toho University

## 17\*. *In vitro* pain responses in human iPSC-derived sensory neurons using MEA system

○Aoi ODAWARA<sup>1),2)</sup>, Takuya IIDA<sup>2)</sup>, Naoki MATSUDA<sup>2)</sup>, Ikuro SUZUKI<sup>2)</sup>

1) Research Institute of Electrical Communication, Tohoku University, 2) Graduate school of engineering, Tohoku Institute of Technology, 3) Japan Society for the Promotion of Science

## 18\*. Pharmacological responses in cultured human induced pluripotent stem cell-derived central neuronal cells using MEA system

○Ikuro SUZUKI<sup>1)</sup>, Aoi ODAWARA<sup>1),2)</sup>, Takeshi KIKUCHI<sup>1)</sup>, Naoki MATSUDA<sup>1)</sup>

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## 19\*. LPS-induced hypoxia exacerbates susceptibility to drug-induced mitochondrial toxicity

○Yugo IKEYAMA, Kouichi ARAKAWA, Shuichi SEKINE, Kousei ITO  
Laboratory of Biopharmaceutics, Faculty of Pharmaceutical Sciences, Chiba University

## 20. Classification of drug-induced torsadogenic risk using human iPS cell-derived cardiomyocytes

○Hiroyuki ANDO<sup>1),2)</sup>, Takashi YOSHINAGA<sup>1),3)</sup>, Wataru YAMAMOTO<sup>1),4)</sup>, Keiichi ASAKURA<sup>1),5)</sup>, Takaaki UDA<sup>1),2)</sup>, Tomohiko TANIGUCHI<sup>1),3)</sup>, Atsuko OJIMA<sup>1),3)</sup>, Raku SHINKYO<sup>1),3)</sup>, Kiyomi KIKUCHI<sup>1),3)</sup>, Tomoharu OSADA<sup>1),6)</sup>, Seiji HAYASHI<sup>1),5)</sup>, Chieko KASAI<sup>1),7)</sup>, Norimasa MIYAMOTO<sup>1),3)</sup>, Hiroyuki TASHIBU<sup>1),8)</sup>, Daiju YAMAZAKI<sup>1),9)</sup>, Atsushi SUGIYAMA<sup>1),10)</sup>, Yasunari KANDA<sup>1),9)</sup>, Kohei SAWADA<sup>1),3)</sup>, Yuko SEKINO<sup>1),9)</sup>

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## 21. Trial for drug-induced epileptogenic phenotype classification in primary rodent neurons and human induced pluripotent stem cell-derived neurons using burst pattern and burst onset time

### cross-correlogram analysis of MEA data

○Norimasa MIYAMOTO<sup>1),2),3)</sup>, Keiichi SHIRAKAWA<sup>4)</sup>, Kohei SAWADA<sup>1)</sup>

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## 22. SCAD-MT<sup>TM</sup> cardiomyocyte: human pluripotent stem cell-derived cardiomyocyte micro-tissues that show maturation and functional stability promoted by using aligned nanofibers

○Kazuhiro AIBA<sup>1)</sup>, Liu LI<sup>1),2)</sup>, Amy E. TAYLOR<sup>3)</sup>, Margaret A. CRAIG<sup>1)</sup>, Kensuke KATO<sup>1)</sup>, Godfrey L. SMITH<sup>3),4)</sup>, Norio NAKATSUJI<sup>1),2)</sup>

1) Stem Cell & Device Laboratory, Inc. (SCAD), Kyoto, Japan, 2) WPI-iCeMS, Kyoto University, Kyoto, Japan, 3) Clyde Biosciences Ltd., Glasgow, Scotland, UK, 4) Institute of Cardiovascular and Medical Sciences, University of Glasgow, Glasgow, Scotland, UK

## 23. High throughput application of temperature control and current clamp recording on automated patch clamp system

○Yuka SHIBANO, Kazuya TSURUDOME, Yuji TSURUBUCHI

1) Sophion Bioscience K.K.

## 24. Evaluation of the drug's property of the blocking to potassium and calcium channel from the change of FPD prolongation using human iPS cell-derived cardiomyocytes

○Kimihito YOSHIKAWA, Fumihide BUNAI, Tetsuo KITAMURA, Mayumi OBO, Tomoharu OSADA, Hiroaki INOUE, Hideomi UCHIDA, Yasuyuki OONISHI, Hideaki HIRATSUKA  
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## 25. Biochemical hERG channel trafficking assay using HEK/CHO cells

○Hiroshi MATSUKAWA, Satomi TOMIZAWA, Mao YAMAGUCHI, Hironori OHSHIRO, Taku IZUMI, Yoshimi KATAYAMA, Akihiro KANNO  
Higashimatsuyama Laboratories, Drug Safety Testing Center, Co., Ltd.

## 26. The usefulness of FDSS/ $\mu$ Cell $Ca^{2+}$ imaging platform using human iPSC-derived cardiomyocyte for *in vitro* cardiotoxicity screening

○Hideaki MITSUI, Mahoko ASAYAMA, Atsushi TORATANI, Yuhei OZAWA, Naoki TSUDA, Kozo MORIMURA, Toshinobu SHIMIZU  
Sohyaku. Innovative Research Division, Mitsubishi Tanabe Pharma Corporation

## 27. The difference response of human cryopreserved hepatocyte to mitochondrial toxic compounds from HepG2

○Ryo FUJINO, Kenta HASHIZUME, Shinsuke AOYAMA, Shin-ichi NINOMIYA  
Drug Development Solutions Division, Sekisui Medical Co., Ltd.

## 28. Introduction to activities by iSmart group F – *In-vitro* wet assay

○Yoshimi KATAYAMA<sup>1,2)</sup>, Takehito ISOBE<sup>1,3)</sup>, Tomokazu KANEHISA<sup>1,4)</sup>, Ayane SAKAGUCHI<sup>1,5)</sup>  
1) iSmart, Japanese Safety Pharmacology Society, 2) Higashimatsuyama Laboratories, Drug Safety Testing Center, Co., Ltd., 3) Research Division, Chugai Pharmaceutical Co., Ltd., 4) Central Pharmaceutical Research Institute, Japan Tobacco Inc., 5) Developmental Research Laboratories, Shionogi & Co., LTD.

## 29. The effect of state and rate dependent IKr channel inhibition on the action potential in human

cardiomyocyte: a simulation study by comparison of the original and IKr Markov state model incorporated O'HaraRudy models

○Yasuyuki ABE<sup>1,2)</sup>, Yoshiyuki FURUKAWA<sup>1,3)</sup>, Yuki OHYABU<sup>1,4)</sup>, Hiroyuki ANDO<sup>1,5)</sup>  
1) iSmart, Japanese Safety Pharmacology Society, 2) Asubio Pharma Co., Ltd., 3) Takeda Pharmaceutical Company Limited, 4) Kaken Pharmaceutical Co., Ltd., 5) Ono Pharmaceutical Co., Ltd.

## 30. Reconstruction of temperature-dependent computational model for human Nav1.5 channel

○Keiichi ASAKURA<sup>1,2)</sup>, Yoshimi KATAYAMA<sup>1,3)</sup>  
1) iSmart, Japanese Safety Pharmacology Society, 2) Pharmacokinetics and Safety Assessment Dept., R&D Lab, Nippon Shinyaku Co., Ltd., 3) Higashimatsuyama Laboratories, Drug Safety Testing Center, Co., Ltd.

## 31. iSMART: *In silico* prediction of Torsadogenic drug-induced proarrhythmias from action potential waveforms in O'Hara-Rudy human cardiac ventricular model

○Tetsuji ITOH<sup>1)</sup>, Chiaki NAKAMORI<sup>2)</sup>, Shota SAIKI<sup>1)</sup>, Yuichi UTSUMI<sup>3)</sup>, Shigeyuki FUJIMOTO<sup>4)</sup>, Shohei KANIE<sup>4)</sup>, Masao OGUCHI<sup>5)</sup>, Shota NAKAGAWA<sup>6)</sup>  
1) Developmental Research Laboratories, Shionogi & Co., LTD., 2) Drug Safety and Pharmacokinetics Laboratories, Taisho Pharmaceutical Co., Ltd., 3) Otsuka Pharmaceutical Factory, Inc., 4) Toxicology Laboratory, TAIHO Pharmaceutical Co., Ltd., 5) Research Administration Department, Ina Research Inc., 6) R&D Safety Science Research, Kao Corporation





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## 32. Quantitative systems pharmacology approach for risk assessment on drug-induced proarrhythmic effects: astemizole case study

○Mikiko NAKAMURA<sup>1),2)</sup>, Fumiya YONEYAMA<sup>1),3)</sup>, Akira HIRATA<sup>1),4)</sup>, Kazuyuki FUJISHIMA<sup>1),5)</sup>

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## 33. Pharmacological characterization of *in silico* HuVEC (Asakura) model: a comparison with O'Hara-Rudy model <Progress report>

○Masakazu ISHIMURA<sup>1),7)</sup>, Fumiya YONEYAMA<sup>2),7)</sup>, Yukiko MURAKI<sup>3),7)</sup>, Hiroko IZUMI-NAKASEKO<sup>4),7)</sup>, Saki MAEKAWA<sup>5),7)</sup>, Keiichi ASAKURA<sup>6),7)</sup>

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## 34. Usefulness of integrated *in silico* human transmural ventricular wedge preparation models for safety evaluation of drug candidates

○Taeko KUBO<sup>1),2),3)</sup>, Takashi ASHIHARA<sup>2)</sup>, Tadashi TSUBOUCHI<sup>1)</sup>, Kiyoko BANDO<sup>1)</sup>, Minoru HORIE<sup>2)</sup>

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Note: Posters given odd and even numbers are displayed on Friday, February 10<sup>th</sup> and on Saturday, February 11<sup>th</sup>, respectively. Posters participated in the award for excellence of research presentation are indicated by an asterisk (\*) and displayed each day. Poster No. 34 is exceptionally displayed on Friday, February 10<sup>th</sup>.