June, 2016

“Japanese activities for alternative to animal testings around the world“

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NIHS

Contents

1. Background
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11 March 2013 Last updated at 17:23 GMT

EU bans sale of all animal-tested cosmetics

A complete ban on the sale of cosmetics developed through animal testing has taken effect in the EU.

The search for alternatives to animal testing goes on

The ban applies to all new cosmetics and their ingredients sold in the EU, regardless of where in the world testing on animals was carried out.

The 27 EU countries have had a ban on such tests in place since 2009. But the EU Commission is now asking the EU's trading partners to do the same.

Animal rights lobbyists said EU officials had "listened to the people".

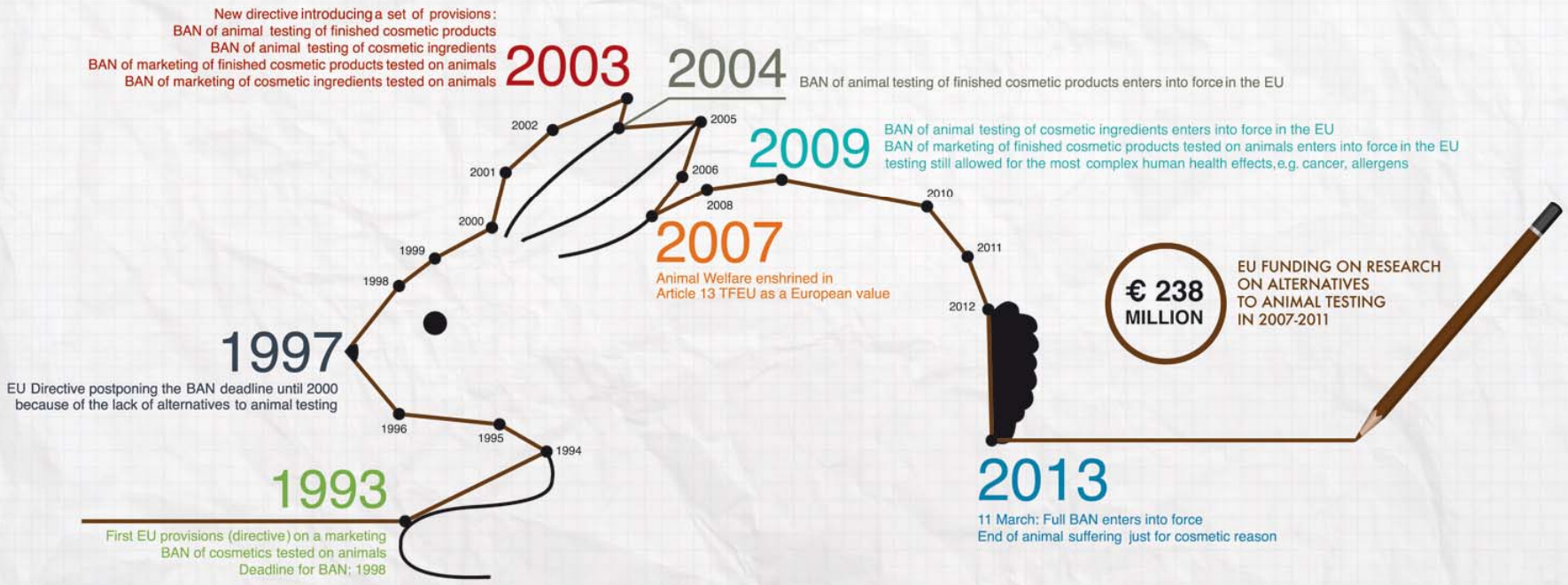
The **anti-vivisection group BUAV and the European Coalition to End**

Related Stories

UK retains strict animal test law

CONNECTING THE DOTS FOR ANIMALS:

HISTORY OF THE EU BAN ON ANIMAL TESTING FOR COSMETICS



Cosmetic regulation and animal testings

Country	Update	Remarks
EU	Prohibition	Products and ingredients
Israel	Prohibition	Products and ingredients
India	Prohibition	
China	Abolishment of animal testings	Excluding specific cosmetic
Brazil	Submitting the bill	Prohibition on Sao Paulo State
USA	Submitting the bill	
Australia	Submitting the bill	
South Korea	No requests	Excluding functional cosmetics
Japan	No requests	Excluding Quasi-drug

OECD

BETTER POLICIES FOR BETTER LIVES

About the OECD

APPLY INTEGRATED APPROACHES TO TESTING AND ASSESSMENT

All of the work on alternative methods is undertaken at the OECD with the objective of contributing to more integrated approaches to testing and assessment. In practice, integrated approaches, which take into account the tools outlined above, are used in the OECD Existing Chemicals Programme which generates internationally agreed initial hazard assessments of chemicals.

This practical application of integrated approaches improves their regulatory acceptance and facilitates their implementation into national and regional chemical assessment schemes in OECD member countries.

AVOID DUPLICATION OF TESTING

The OECD **Mutual Acceptance of Data** (MAD) framework has had a major impact on testing practices. MAD guarantees that data generated in the testing of chemicals in an OECD member country, or adhering non-member country, in accordance with OECD Test Guidelines and OECD Principles of Good Laboratory Practice shall be accepted in other member or adhering countries for purposes of chemical assessment and other uses relating to the protection of man and the environment. This proactive framework saves thousands of animals every year and its impact increases as non-OECD economies join the MAD system.

Furthermore, the OECD has developed the **Global Portal to Information on Chemical Substances** (eChemPortal). eChemPortal offers free public access to information on properties of chemicals through a simultaneous search of multiple databases, thereby improving the access to existing test results and reducing the risk of unnecessary testing.

WHERE CAN I FIND OECD TOOLS RELATED TO CHEMICAL SAFETY AND ANIMAL WELFARE ?

(Q)SARs, Grouping of Chemicals and the (Q)SAR Application Toolbox

www.oecd.org/env/existingchemicals/qsar

Test Guidelines, *in vitro* test methods, molecular screening and toxicogenomics

www.oecd.org/env/testguidelines

Integrated Approaches to Testing and Assessment

www.oecd.org/env/existingchemicals

Mutual Acceptance of Data

www.oecd.org/env/glp

Global Portal to Information on Chemical Substances

www.oecd.org/ehs/eChemPortal

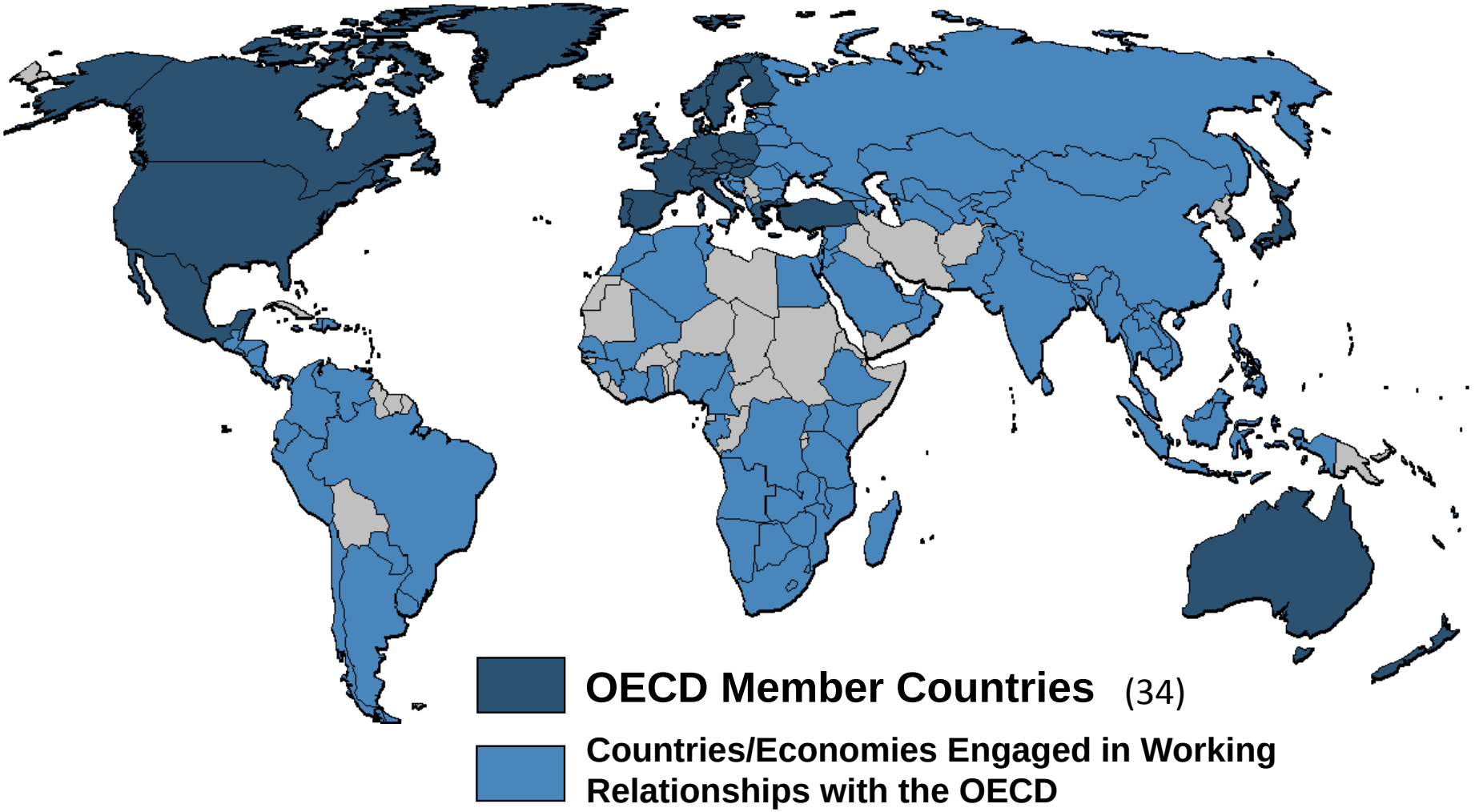
For more information contact
the OECD Secretariat at
ehscont@oecd.org

Chemical Safety and Animal Welfare

Progress made at the OECD

www.oecd.org/env/ehs

A global outreach



Functioning of the Programme

- Work plan includes projects lead by member countries, updated and declassified annually.
- SPSF template for project proposal, available to NCs, concerns projects on:

New Test Guideline	**Guidance document**
Revised Test Guideline	**Detailed Review Paper**
Deletion of an existing Test Guideline	**Other, specify:**

- Regulatory need
- Animal welfare
- Cost effectiveness

main motivations for projects

Table. OECD Test Guidelines for *in vitro* test method (2015)

Class	Test methods
Corrosion	*In vitro* Skin Corrosion: Transcutaneous Electrical Resistance Test Method (TER) :TG430
	In vitro Skin Corrosion: Reconstructed Human Epidermis (RHE) test method :TG431
	CORROSITEX Skin Corrosivity Test :TG435
Skin irritation	*In vitro* Reconstructed Human Epidermis (RhE) Test methods, EpiDerm, EPISKIN, SkinEthic, LabCyte EPI-Model: TG439
Phototoxicity	3T3 NRU Phototoxicity Test :TG432
Eye irritation	Bovine Corneal Opacity and Permeability Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage:TG437
	Isolated Chicken Eye Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage:TG438
	Fluorescein Leakage Test Method for Identifying Ocular Corrosives and Severe Irritants : TG460
	Short Time Exposure In Vitro Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage : TG491
	Reconstructed human Cornea-like Epithelium (RhCE) test method for identifying chemicals not requiring classification and labelling for eye irritation or serious eye damage : TG492
Skin sensitisation	*In Chemico* Skin Sensitisation, Direct Peptide Reactivity Assay (DPRA) :TG442C
	In Vitro Skin Sensitisation, ARE-Nrf2 Luciferase Test Method :TG442D
Endocrine disrupter screening	Performance-Based Test Guideline for Stably Transfected Transactivation In Vitro Assays to Detect Estrogen Receptor Agonists and Antagonists : TG455
	H295R Steroidogenesis Assay :TG456
	BG1Luc Estrogen Receptor Transactivation Test Method for Identifying Estrogen Receptor Agonists and Antagonists: TG457
	Performance-Based Test Guideline for Human Recombinant Estrogen Receptor (hrER) In Vitro Assays to Detect Chemicals with ER Binding Affinity : TG493
Genotoxicity	Bacterial Reverse Mutation Test : TG471
	In vitro Mammalian Chromosome Aberration Test : TG473
	In Vitro Mammalian Cell Gene Mutation Tests using the Hprt and xprt genes : TG476
	In vitro Micronucleus Test : TG487
	In Vitro Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene : TG490
Skin absorption	Skin Absorption: *In vitro* Method :TG428

Japanese activities

OECD Test Guidelines developed by Japan

- Skin sensitization assay, LLNA：DA, TG 442A (2010)
- Skin sensitization assay, LLNA：BrdU-ELISA , TG 442B (2010)
- Skin irritation assay with LabCyte EPI-MODEL 24, TG 439 (2013)
- *In vivo* comet assay TG 489 (2014)

✓ Performance-based Test Guideline for stably transfected transactivation *in vitro* assays to detect estrogen receptor agonists and antagonist, Revised TG 455 (2015)

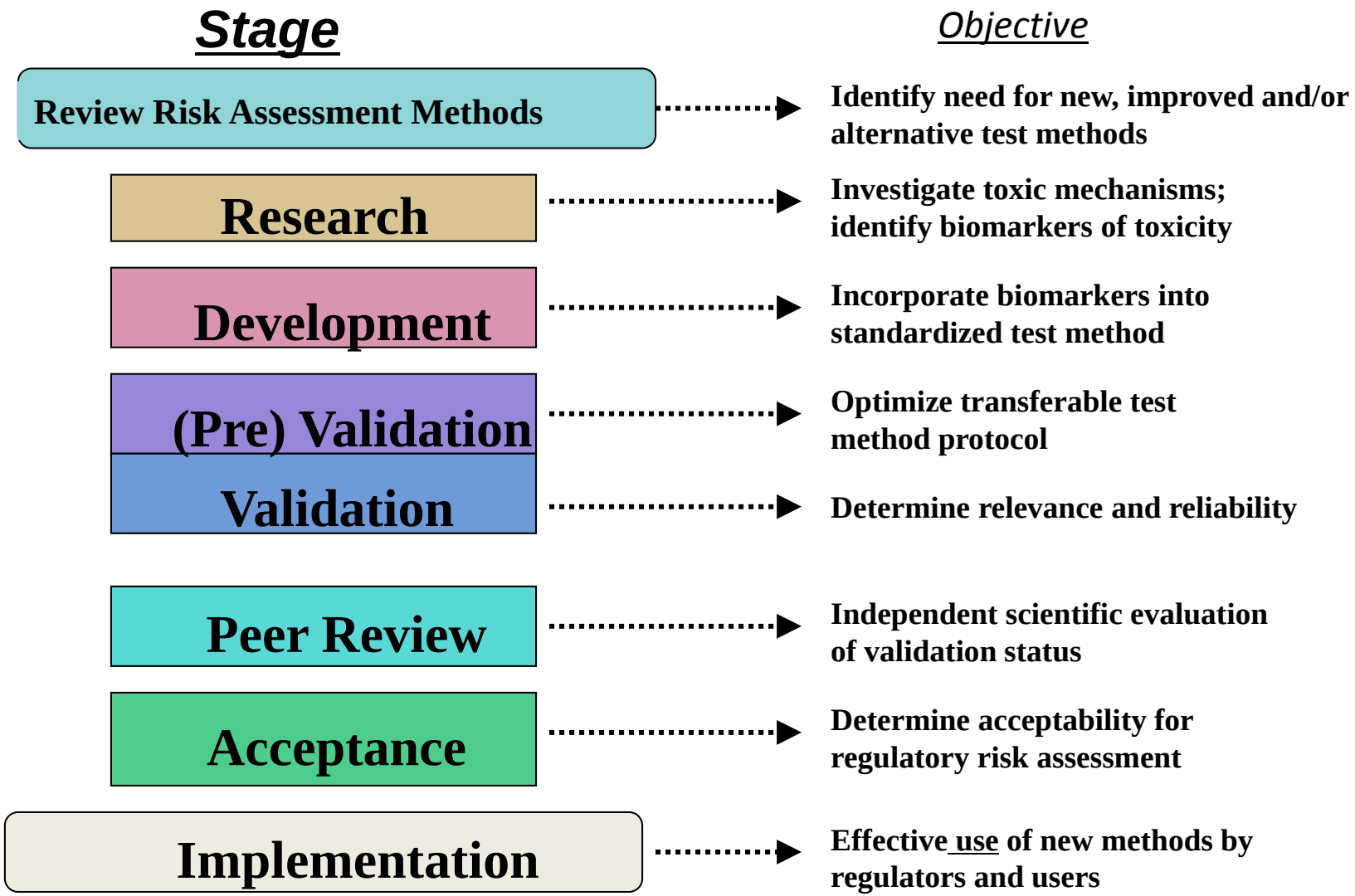
✓ Short time exposure (STE) assay for eye irritation testing TG490 (2015)

✓ Bhas 42 cell transformation assay (2016) Guidance document

✓ h-CLAT assay for skin sensitisation testing (2016)

✓ Stable transfected transcriptional activation (STTA) assay for androgen disruptor screening (AR-Ecoscreen)(2016)

Test Method Evolution and Translation Process: Concept to Implementation



JaCVAM: Japanese Center for the Validation of Alternative Methods

This Center was established at the National Institute of Health Sciences (NIHS) in Japan, 2005 by the Ministry of Health, Labour and Welfare (MHLW).

JaCVAM's Goals

- To promote the 3Rs in animal experiments for the evaluation of chemical substance safety in Japan.
- To establish guidelines for new alternative experimental methods through international collaboration.

JaCVAM roles

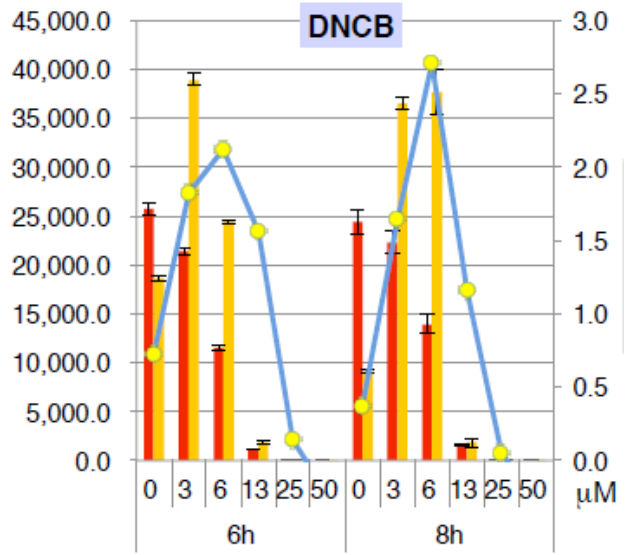
- JaCVAM assesses the utility, limitations, and suitability for use in regulatory studies of test methods for determining the safety of chemicals and other materials and also performs validation studies when necessary. In addition, JaCVAM cooperates and collaborates with similar organizations in related fields, both in Japan and internationally.
- JaCVAM activities are also beneficial to application and approval for the manufacture and sale of pharmaceutical chemicals, pesticides and other products as well as to revisions to standards for cosmetic products.

Update on JaCVAM (15.June / 2009 updated)

Classification	Test name	Validation study	Peer review	Regulatory acceptance	Recommendation to government	OECD	Collaboration
01 Corrosivity test	(1)Reconstructed human tissue test made in Japan: Vitrolife-Skin	Feb-09	Jun-08	Jun-08	Aug-08	Guideline No.431	JSAAE
02 Phototoxicity test	(1)3T3－NRU	BfR	Nov-04			Guideline No.432	
	(2)Yeast growth inhibition phototoxicity assay and the red blood cell photohemolysis assay	Jan-09	May-09	on going			JSAAE
03 Skin sensitization test	(1)LLNA-DA	Jun-07	Feb--08	Oct-08	Nov-08		JSAAE
	(2)LLNA-BrdU	Aug-08	Feb-09	on going			JSAAE
	(3)h-CLAT	start in 2009					
	(4)LLNA						
	(5)rLLNA	ECVAM, ICCVAM	start in 2009				ICCVAM
04 Skin irritation test	(1)Reconstructed human tissue test	ECVAM℃	Nov-08	on going		Draft test guideline	ECVAM
	(2)Reconstructed human tissue test made in Japan	May-09					JSAAE

Test methods under the OECD work plan

- IL-8 Luc assay for skin sensitisation testing
- ROS assay for phototoxicity testing

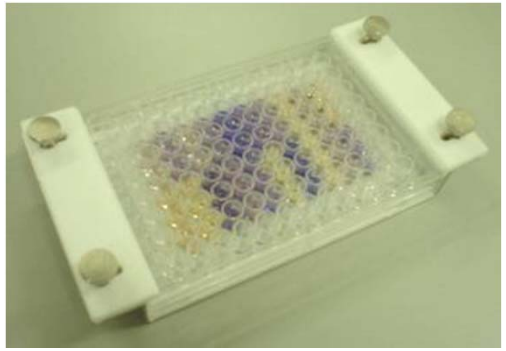


ICH guideline

ICH HARMONISED TRIPARTITE GUIDELINE

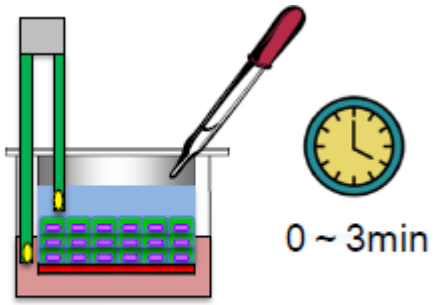
Guideline on Photosafety Evaluation of Pharmaceuticals S10 (Step 4 Version: 2013)

ROS (Reactive oxygen species) assay including superoxide anion and singlet oxygen approved in the guideline.



Japan organized on-going International peer review

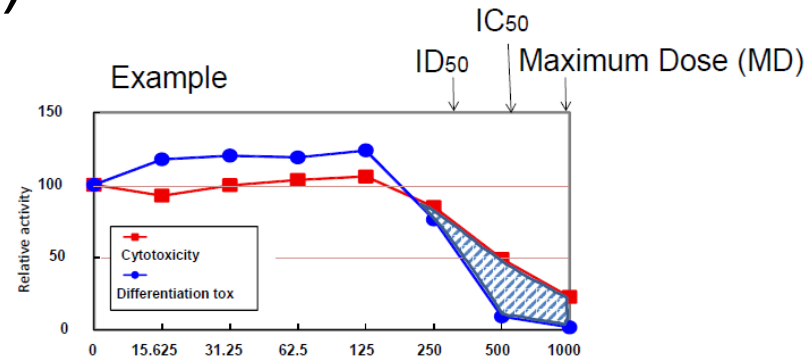
1. SIRC-CVS assay for eye irritation tesitng
2. Vitrigel-EIT for eye irritation tesitng (supported by MAFF)
3. LabCyte Cornea-mode EIT for eye irritation tesitng (supported by JSAAE)



Chemical exposure experiment

Japan organized on-going International validation studies

1. Hand-1 Luc EST for developmental screening (supported by METI)



2. MITA for immunotoxicity screening

3. ADRA for skin sensitisation testing

Summary

In vitro test methods are considered necessary for regulatory within merits and demerits that can be characterized as follows:

1) In vitro test methods are useful for hazard identification but not for risk assessment, with the exception of *in vitro* skin absorption assays (dose-response, exposure route, etc.). For example, the *in vitro* skin irritation method (TG 439)[14] provides an *in vitro* procedure that may be used for hazard identification of substances and mixtures classified as UN GHS Category 2 (irritants). TG 439 can also be used to identify chemicals classified as No Category, provided that there is no need to identify the optional UN GHS Category 3 (mild irritants).

2) In vitro test methods are likely not to be sufficient as a stand-alone method to evaluate the toxic potential of chemicals based on the activation of pathways.

3) Combinations of *in silico, in chemico, in vitro* and other alternative methods within Integrated Approaches to Testing and Assessment (IATA)[18] will be needed to substitute for the animal tests currently in use for specific Adverse Outcome Pathway (AOP)[18] mechanistic coverage.

Regulation on Animal Welfare in Japan

Ministry of Environment

「Act on Welfare and Management of Animals」（2007）

Standards relating to the care and management, etc. of experimental animals（2008）

Basic principle of animal experiments in three Ministries

MEXT	MHLW	MAFF
2008	2008	2008
Animal care and rule of animal experiments for laboratories at a university	Animal care and rule of animal experiments for research institute under MHLW	Animal care and rule of animal experiments for research institute under MAFF
Principle of 3Rs	**Principle of 3Rs**	**Principle of 3Rs**

MHLW Evaluation and Licensing Division publicized the availability of alternative test methods for use in safety evaluations of cosmetics and quasi-drugs in 2012 to 2015.

No.	Test Methods
1	Guidance for skin sensitization testing, LLNA
2	Guidance for alternative to phototoxicity testing, *in vitro 3T3 NRU*
3	Guidance for skin sensitization testing, LLNA:DA
4	Guidance skin sensitization testing, LLNA:BrdU-ELISA
5	Guidance for alternative to eye irritation testing , BCOP
6	Guidance for eye irritation, the revised TG405
7	Guidance for alternative to eye irritation testing , ICE

International cooperation

The ICCR is an international group of regulatory authorities from Canada, the European Union, Japan, and the United States. ICCR members work together to promote regulatory alignment, in order to maximize consumer protection while minimizing barriers to trade. Here's where to find information on ICCR:

ICCR activities

- At ICCR 5 in 2011, a report on *Applicability of Animal Testing Alternatives in Regulatory Frameworks within ICCR Regions* described processes and proposed mechanisms in each jurisdiction for regulatory acceptance of the use of alternative methods in the area of cosmetics.
- At ICCR 6 in 2012, an overview was provided on the potential application of Quantitative Structure Activity Relationship (QSAR) prediction models for the safety assessment of cosmetic ingredients. Thereafter, it was agreed that "QSAR/*in silico*" computational toxicology be added to the ICCR Agenda, and a new working group was formed to further explore *in silico* models applicable to personal care products. The working group presented its report, "*In silico* Approaches for Safety Assessment of Cosmetic Ingredients" at ICCR 8 in 2014, when it was agreed that QSAR/ *in silico* should remain on the ICCR Agenda.
- The ICCR Steering Committee (SC) requested the WG to develop a draft Terms of Reference (ToR) that will be provided to the SC for input. The WG will also provide an update of activities at the ICCR-10 meeting in July, 2016.

Table 2 QSARs models for skin sensitisation

Model	Type	Chemical coverage	Availability	Endpoint predicted
Relative alkylation index (RAI) approach	Local QSAR approach	Various RAI derived for specific chemical classes e.g. sulfonate esters, sulfones, primary alkyl bromides, acrylates, aldehydes and diketones	Published in the literature	Most of the RAI models aim to predict the EC3 value in the LLNA, a few predict the outcome in guinea pig tests
QMM approach which is an extension of the RAI approach	Local QSAR approach	Developed on the basis of Reaction mechanistic domains (Schiff base formers, Michael addition, Acylating agents, SN2)	Published in the literature	EC3 in the LLNA
Various e.g. Estrada et al., (2003)	Global models	Mainly based on the Gerberick et al (2005) dataset hence cover a broad coverage of chemicals	Variable	Potency categorisation as defined by EC3 values in the LLNA
TOPKAT	Expert system (statistical)	Based mainly on the datasets published by Cronin and Basketter (1994) hence reasonably broad coverage of chemicals	Commercial	Binary model to predict likelihood of sensitisation and additional model to estimate qualitatively the potency as defined in the GPMT
MCASE Suite of models to predict each of the KEs in the AOP	Expert system (statistical)	Broad coverage of chemicals	Commercial	Models to predict the outcome of the DPRA, ARE activation, n-CLAT, EC3 potency bands and overall binary sensitisation outcome
Derek Nexus	Expert system (Knowledge based)	Broad coverage of chemicals	Commercial	Qualitative likelihood of skin sensitisation potential
TIMES-SS	Expert system (Hybrid)	Broad coverage of chemicals	Commercial	Based on data from LLNA, GPMT and Human

VICH International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products

VICH/07/038
Final
18 September 2007

Statement of Principle for VICH – Alternatives to Animal Testing

At its 19th meeting on 23-24 January 2007 in Washington D.C., USA, the VICH Steering Committee reiterated its ambition to minimise animal testing and specifically expressed its support for the 3Rs principle – replacement, refinement and reduction of animals in research.

VICH has always striven to eliminate repetitious and unnecessary testing through harmonisation of regulatory requirements for the registration of veterinary products, a goal that undoubtedly leads to a reduction in the number of animals used for product development and registration.

While the validation of alternative testing protocols[1] falls outside the remit of VICH, the Steering Committee recognises that the international status and influence of VICH provide a unique opportunity to encourage the use of validated alternative methods. To this end, Expert Working Groups developing guidelines involving animal experimentation have a specific responsibility to consider animal welfare, and particularly the possibilities for replacement, refinement and reduction of animal testing

ICH 日米EU医薬品規制調和国際会議

International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use

INTERNATIONAL CONFERENCE ON HARMONISATION OF TECHNICAL REQUIREMENTS FOR REGISTRATION OF PHARMACEUTICALS FOR HUMAN USE

ICH HARMONISED TRIPARTITE GUIDELINE

ICH S5(R3) Expert Working Group Meeting

Workpackages

Integrated testing strategies for EFD (Embryonic and Fetal Development study)

- •Design of optional integrated testing strategies involving an in vivo mammalian EFD assessment and in vitro, ex vivo and non-mammalian in vivo (e.g. zebrafish) EFD assays
- •Identification of scenarios of use and the limited circumstances under which such a testing strategy would be considered.

Combinations of studies –JPMA&MHLW/PMDA

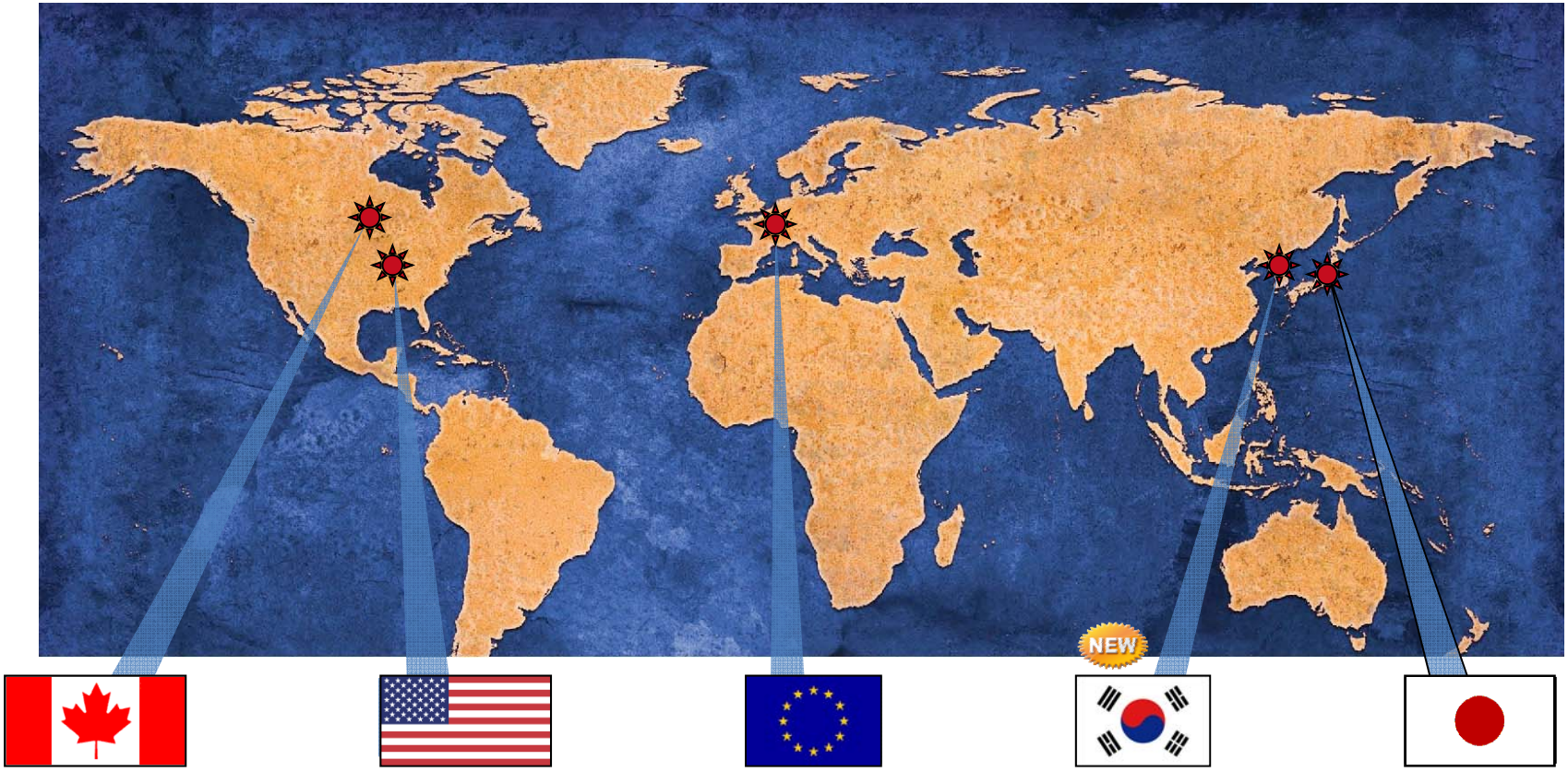
- •Delineate options of combining reproductive toxicity studies and their designs
- •Describe the circumstances under which the outcome of preliminary EFD studies could determine the ultimate risk assessment for EFD
- •Identification of scenarios of use of the different combinations

Proposed Next Steps and Timelines

- ✓EWG face-to-face at June 2016 ICH Meeting is requested
- ✓Timeline for Step 2a Document by June 2017
- ✓A total period of 4.5 years is foreseen for Step 4 from the establishment of the EWG
- ✓Public comments incorporated into Step 4 Document June 2019

ICATM

ICATM is a **voluntary** international cooperation of national organizations: Canada, the European Union, Japan, South Korea, and the United States.



Comparison with VAMs

Organization	Formal Name	Mother organization	Act	Establish.	Member No.
EURL ECVAM	European Center for the Validation of Alternative Methods	Joint Research Center	Directive 86/609/EEC	1991.1	60(30)
ICCVAM	Interagency Coordinating Committee on the Validation of Alternative Methods	The NTP Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM）	NIH Revitalization Act of 1993, ICCVAM Authorization Act of 2000	1994	12(10)
JaCVAM	Japanese Center for the Validation of Alternative Methods	National Institute of Health Sciences (NIHS)	None	2005.11	5(2)
KoCVAM	Korean Center for the Validation of Alternative Methods	Korean Food and Drug Association (KFDA)	??	2009.11	6(2)
ICATM	International Cooperation on Alternative Test Methods		None	2009.4	

ICATM Members

- ICATM founded 27 April 2009 (JaCVAM, NICEATM, ECVAM, Health Canada)
- KoCVAM (Republic of Korea's Centre for the Validation of Alternative Methods) became the fifth member March 8, 2011, Washington DC

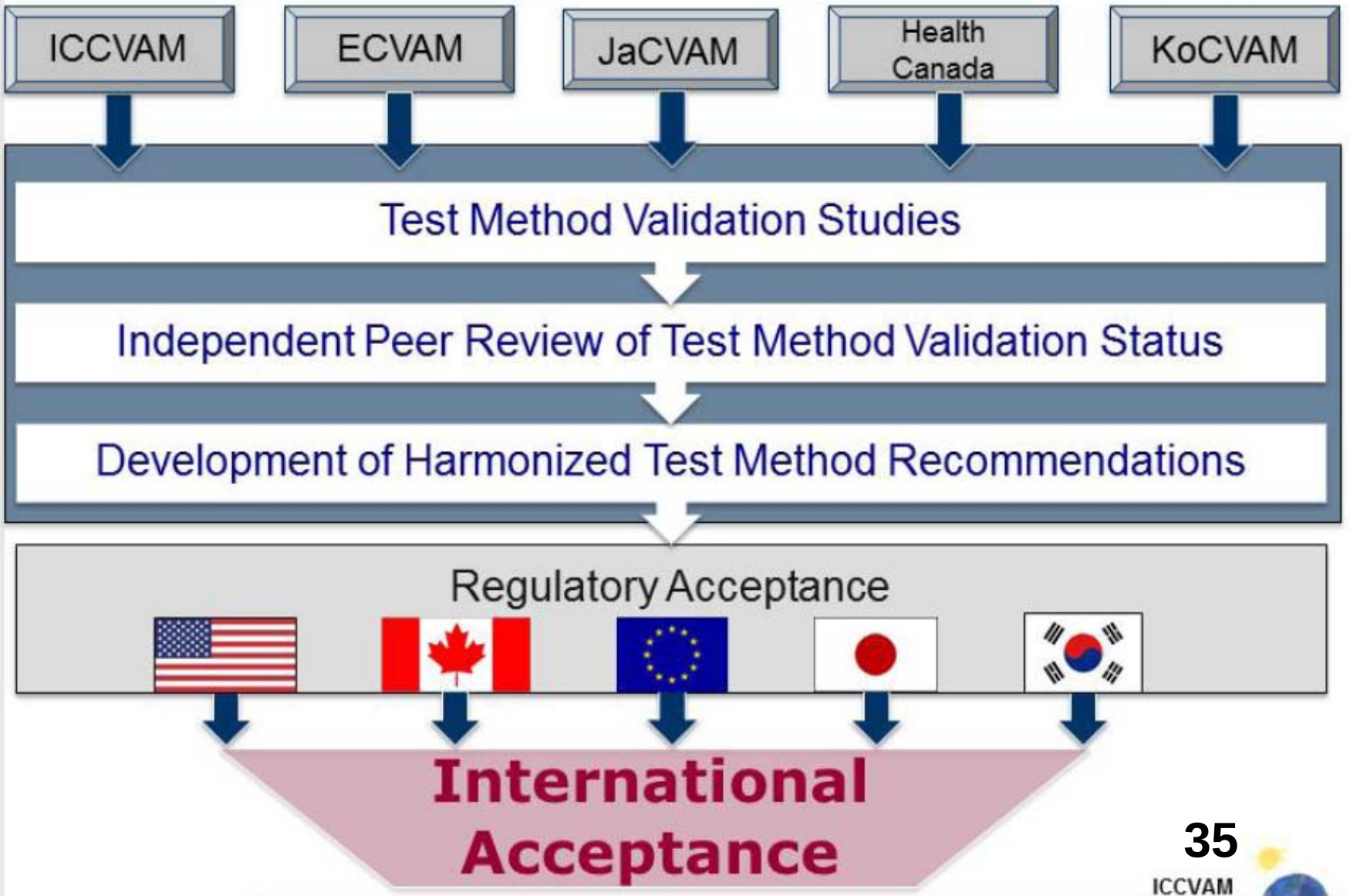
The addition of KoCVAM
complements the capacities of ICATM

Signing of Memorandum of Cooperation

ICATM Purpose

- Promote consistent and enhanced voluntary international cooperation, collaboration and communication among validation organizations in order to:-
  - Further optimal design and conduct of validation studies
  - Further high quality independent reviews with opportunity for stakeholder involvement
  - Enhance likelihood of harmonized recommendations on usefulness and limitations of test methods for regulatory use
  - Achieve greater efficiency by avoiding duplication of effort
  - Support timely adoption of alternative methods

ICATM Cooperation



International Cooperation

2015 KoCVAM-JaCVAM Meeting

KoCVAM-JaCVAM meeting

August 23, 2015, Seoul, Korea

Shared JaCVAM's experience of proposing ATMs and making them adopted as OECD test guidelines

KoCVAM

Korean Center for the Validation of Alternative Methods

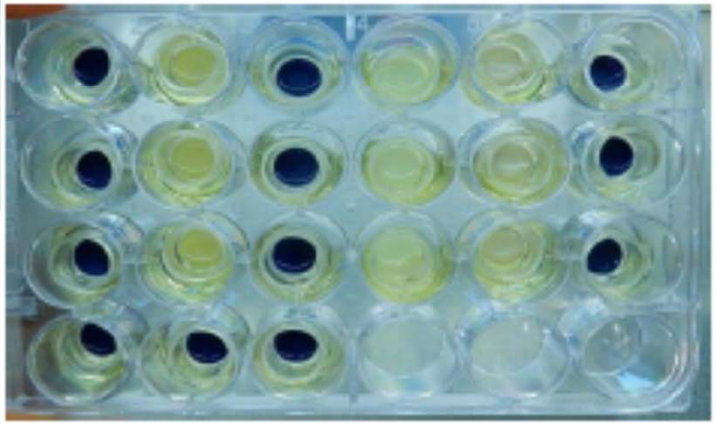
JaCVAM

Enhance cooperation among Asian countries in the field of ATMs

Non-official support by JaCVAM

EPiTRI-SIT human epidermis model

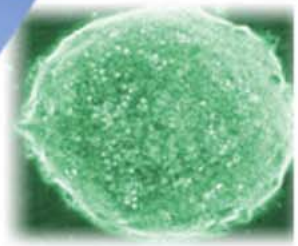
工業技術研究院
Industrial Technology
Research Institute



The Japanese Society for Alternatives to Animal Experiments

JSAAE

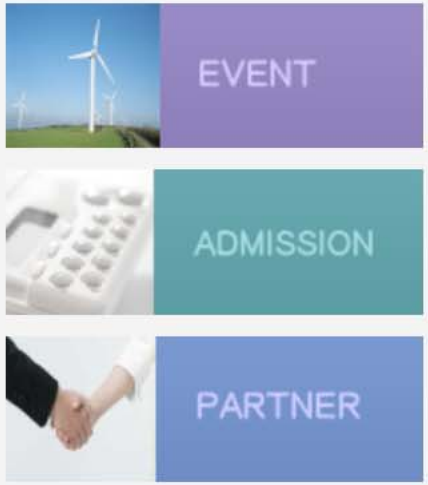
Promotion of 3Rs
Replacement



日本語サイトへ ▶

NEWS

Jun 10, 2015	Information of Asian Congress 2016
Jun 5, 2015	Communication from the European Commission on the European Citizens'Initiative "Stop Vivisection"
May. 30, 2015	Nominations for The 2015 Lush Prize opened.
Feb. 3, 2015	Recruitment of "8th Mandom International Research Grants on Alternative to Animal Experiments" was finished. Thank you for much application.
Nov. 25, 2014	"Program of the 27th annual meeting was posted."
Sept. 3, 2014	"Japanese Society Activity for the Recruitment Guidance of Alternatives to Animal Experiments Research Grants 8th Mandom International Research Grants on Alternative to Animal Experiments."
Aug. 4, 2014	The 27th Annual Meeting



Office of JSAAE

c/o Association for Supporting Academic

Purpose and history of JSAAE

“Promote and propagate of 3Rs in Japan in research, development, and education”

- **1982：Established as a research group**
  （Representatives：Prof. Tsutomu Sugawara）
- **1986：Alternative animal test investigation task force at JCIA**
- **1990：Reformed to become Scientific Association**
- **2002：Accepted as a member society by Science Council of Japan.**

(・2005: 3Rs were officially included in the animal protection law)
(・2006: JaCVAM at NIHS)

- **2007：Organized WC6 in Tokyo**

***28 times of annual meeting**

General services

1) Annual meeting of the society
2) Extraordinary symposium and workshops
3) Publication
   - J. Alternatives to Animal Experiments (AATEX)
   - News letters (in Japanese)
   - Home page
4) Financial support to related research
5) Validation and evaluation of new alternatives
6) Collect relevant information
7) Communication with other countries
8) Others
   - Support of International meeting
   - Collaboration with the other scientific associations

     Tissue culture Assoc, Mutagenicity assoc., etc
   - Communication with animal protection group

International communication

Have been trying to set collaboration with EU and USA etc.

- Memorandum with EUSAAT: European Society For Alternatives To Animal Testing (2015)
- Memorandum with ASCCT: American Society for Cellular and Computational Toxicology (2015)

Asian Cooperation

International communication with China

Have been trying to set collaboration with Asian countries.

- Memorandum with KSAAE: Korean Society of Alternative to Animal Experiments (2008-)
- Memorandum with Chinese society of animal experiments (2008-2012)
- Hopefully, comminucate with Chinese society of Toxicity Testing and Alternatives (TTA) and Chinese society of Toxicological Laternative and Translational Toxicology (TATT)


Asian Congress 2016
on Alternatives and
Animal Use in the Life Science

Outline on Asian Congress 2016

Formal Name: Asian Congress 2016 on Alternatives and Animal Use in the Life Science (Joint Meeting with 29th JSAAE Annual meeting)

Data: November 15-18, 2016

Venue: Karatsu Civic Hall in Karatsu, Saga, Japan

Kyushu University in Fukuoka , Japan

Host：Japanese Society for Alternatives to Animal Experiments (JSAAE) under the Patronage of Alternatives Congress Trust (ACT)

Support： Human Society International (HSI) , Japanese Center for the Validation of Alternative Methods (JaCVAM), Japan Cosmetic Center (JCC)

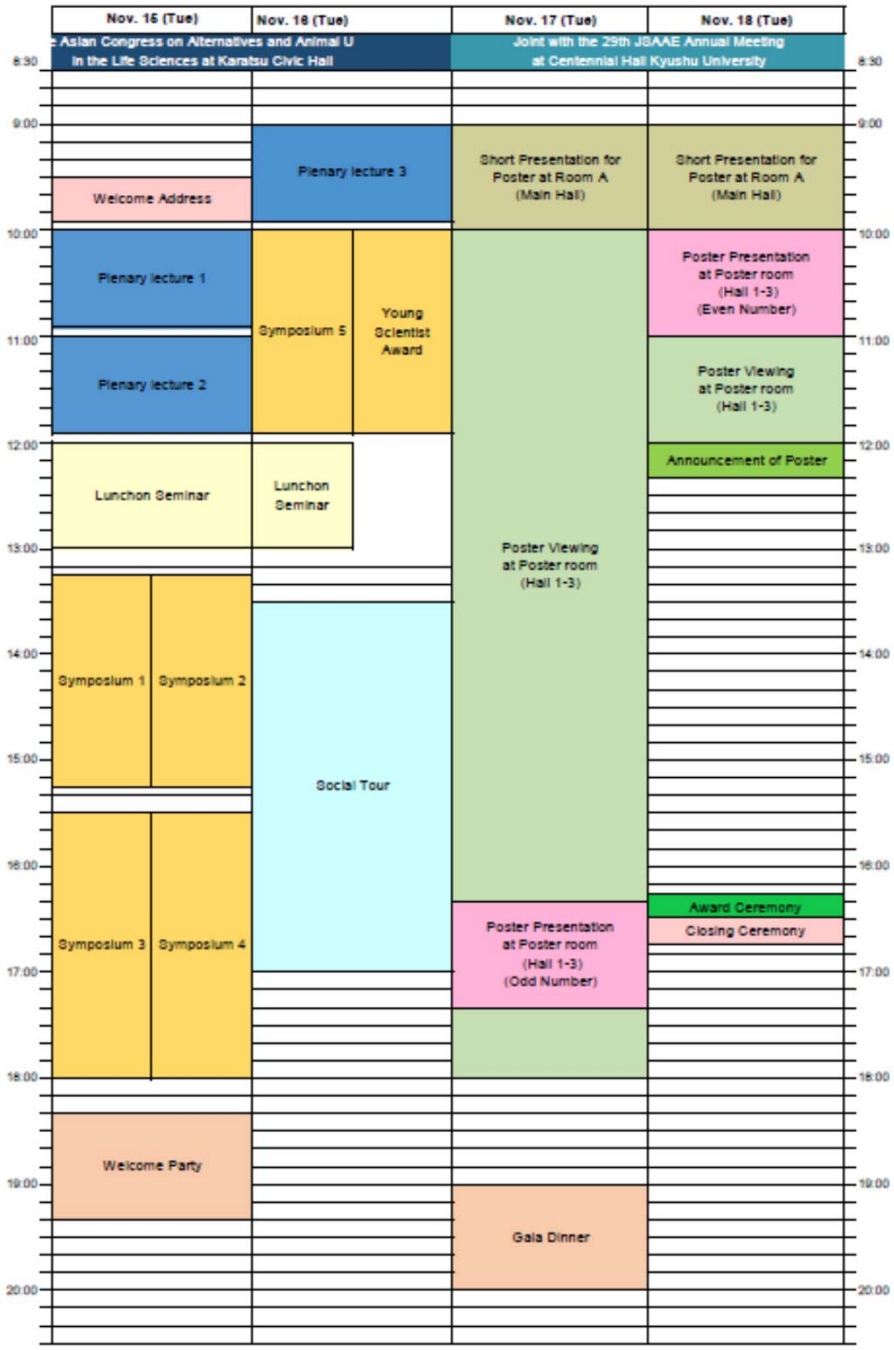
Purpose

The Asian Congress will be the first conference of its kind for researchers from Asia, and will afford an opportunity for promoting alternative methods to researchers in these places, where the concept of the Three Rs is just now achieving penetration. The Asian Congress is intended to achieve multiple missions, which will include disseminating information not just on the latest advances in including pure sciences but on practical applications of the Three Rs worldwide.

Time Schedule at a Glance

The Asian Congress on Alternatives and Animal Use in the Life Sciences, Karatsu, Saga, JAPAN

November 15th (Tue) to 18th (Fri), 2016



Programe for Asian Congress 2016

Plenary Lecture			
	Speaker	Affiliation	Country
1	Herman B.W.M. Koeter	Chairman of the Alternatives Congress Trust (ACT)	Italy
2	Troy Seidle	Humane Society International	USA
3	Joanne Zurlo	Center for Alternatives to Animal Testing(CAAT) Johns Hopkins University	USA

Session

1. Asian trends in 3Rs of animal experiments
2. Cosmetics regulation and alternatives in Animal Experiments
3. 3Rs in pesticides and Chemicals
4. 3Rs in Biologicals and others
5. Future Approaches to alternatives in 3Rs

Conclusion

According to International trend, I expect the development and validation of novel alternative to animal methods in China.

I am sure China will join the ICCR, ICATM and OECD activities on the novel test methods for regulatory acceptance.


JaCVAM
Japanese Center for the Validation of Alternative Methods
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National Institute of Health Sciences (NIHS)
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Policy and Mission: JaCVAM's policy and mission is to promote the 3Rs in animal experiments for the evaluation of chemical substance safety in Japan and establish guidelines for new alternative experimental methods through international collaboration.
the 3Rs in animal experiments---Reduction (of animal use)
Refinement (to lessen pain or distress and to enhance animal well-being)
Replacement (of an animal test with one that uses non-animal systems or phylo-genetically lower species)
(OECD GD34)
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