

April, 2016
2016 Shanghai Cosmetics Forum

"View and suggestion about how to
promote progress and cooperation in Asia"



Contents

1. Background
2. International cooperation
 - OECD
 - International organisation
 - ICATM
3. Asian cooperation



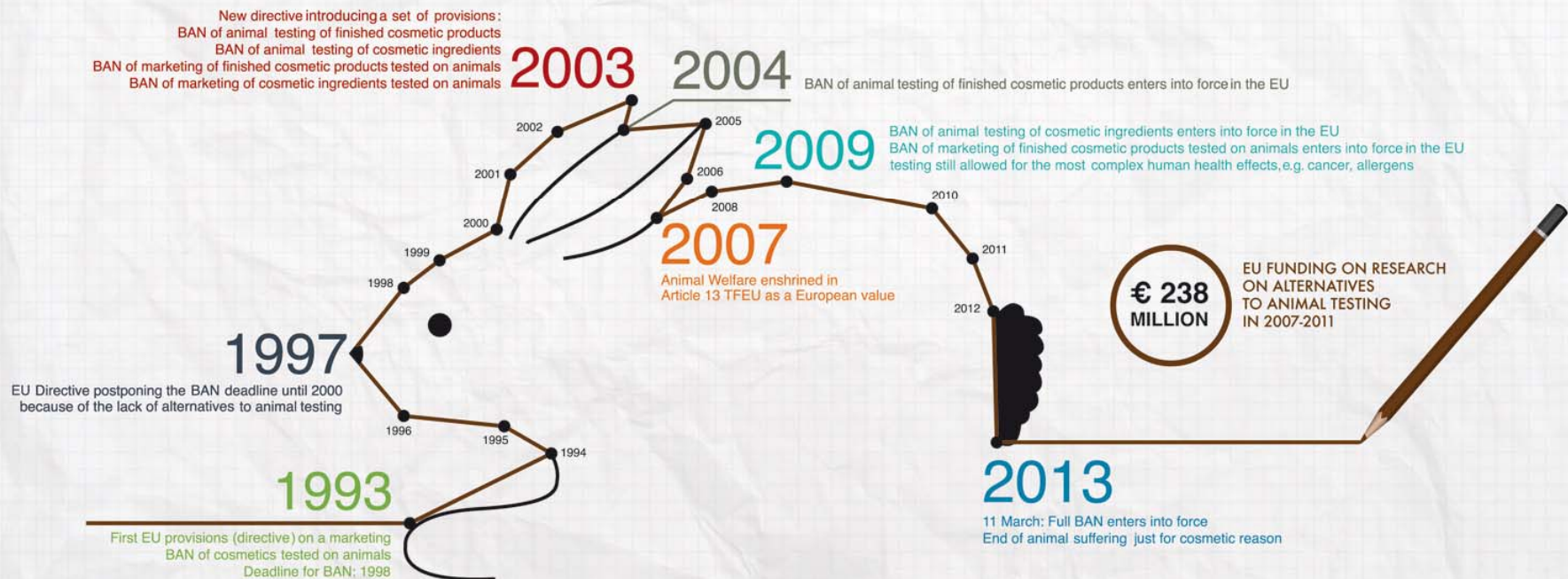
3Rs of animal use

(Russel and Burch 1959)

- 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 phylogenetically lower species)

CONNECTING THE DOTS FOR ANIMALS:

HISTORY OF THE EU BAN ON ANIMAL TESTING FOR COSMETICS



NEWS EUROPE

[Home](#) | [UK](#) | [Africa](#) | [Asia](#) | [Europe](#) | [Latin America](#) | [Mid-East](#) | [US & Canada](#) | [Business](#) | [Health](#) | [Sci/Environment](#)

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 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**



The search for alternatives to animal testing goes on

Related Stories

**UK retains strict
animal test law**

Cosmetic regulation and animal testings

Country	Update	Remarks
EU	Prohibition	Products and ingredients
Israel	Prohibition	Products and ingredients
India	Prohibition	
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
China	Abolishment of animal testings	Excluding specific cosmetic

International cooperation



[OECD Home](#)

[About](#)

[Countries](#)

[Topics](#)

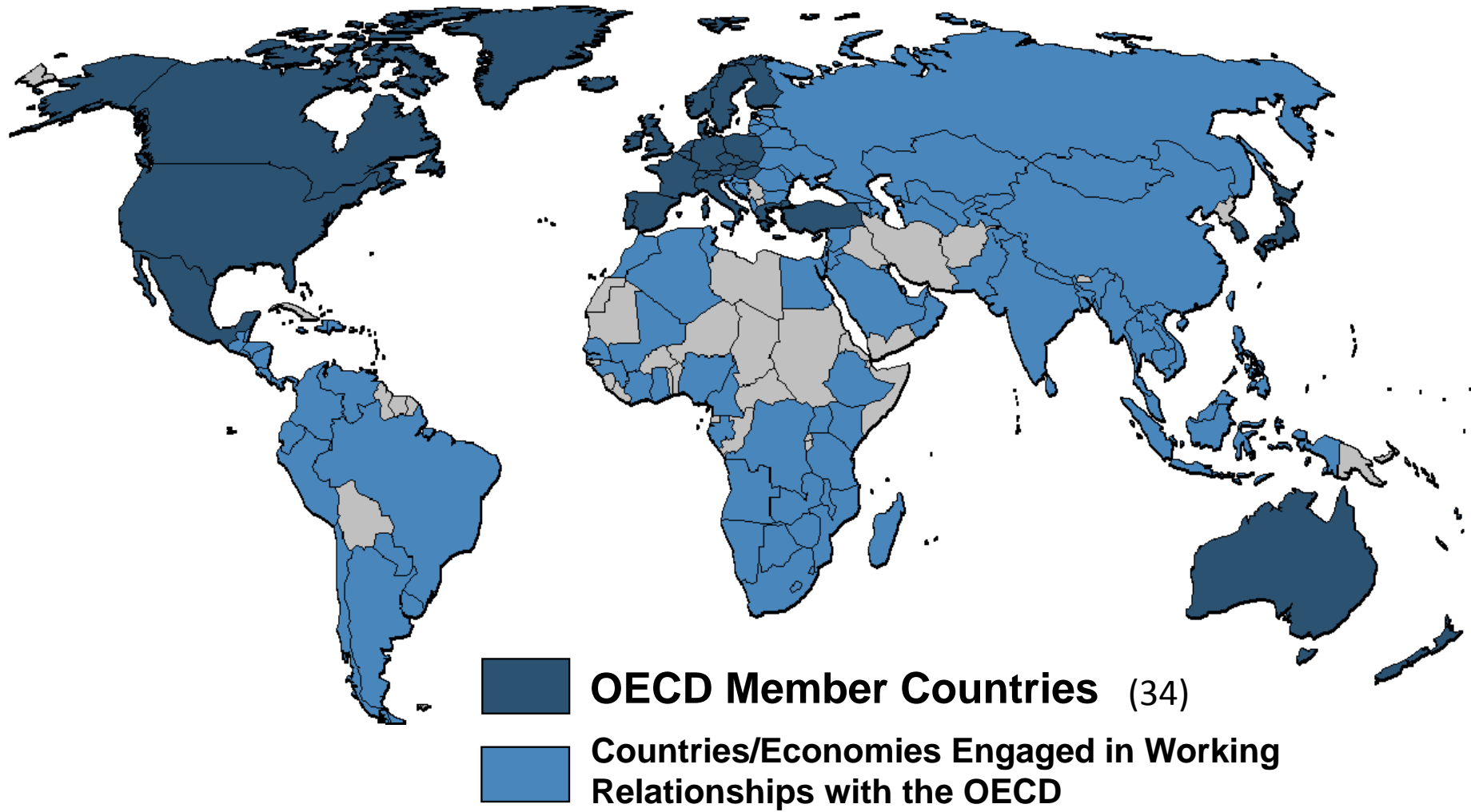
[OECD Home](#) › [About the OECD](#)

About the OECD

- › [Who does what](#)
- › [What we do and how](#)
- › [Members and partners](#)
- › [History](#)
- › [Budget](#)
- › [Publishing](#)
- › [Careers at the OECD](#)



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 (National Coordinator)s, concerns projects

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

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

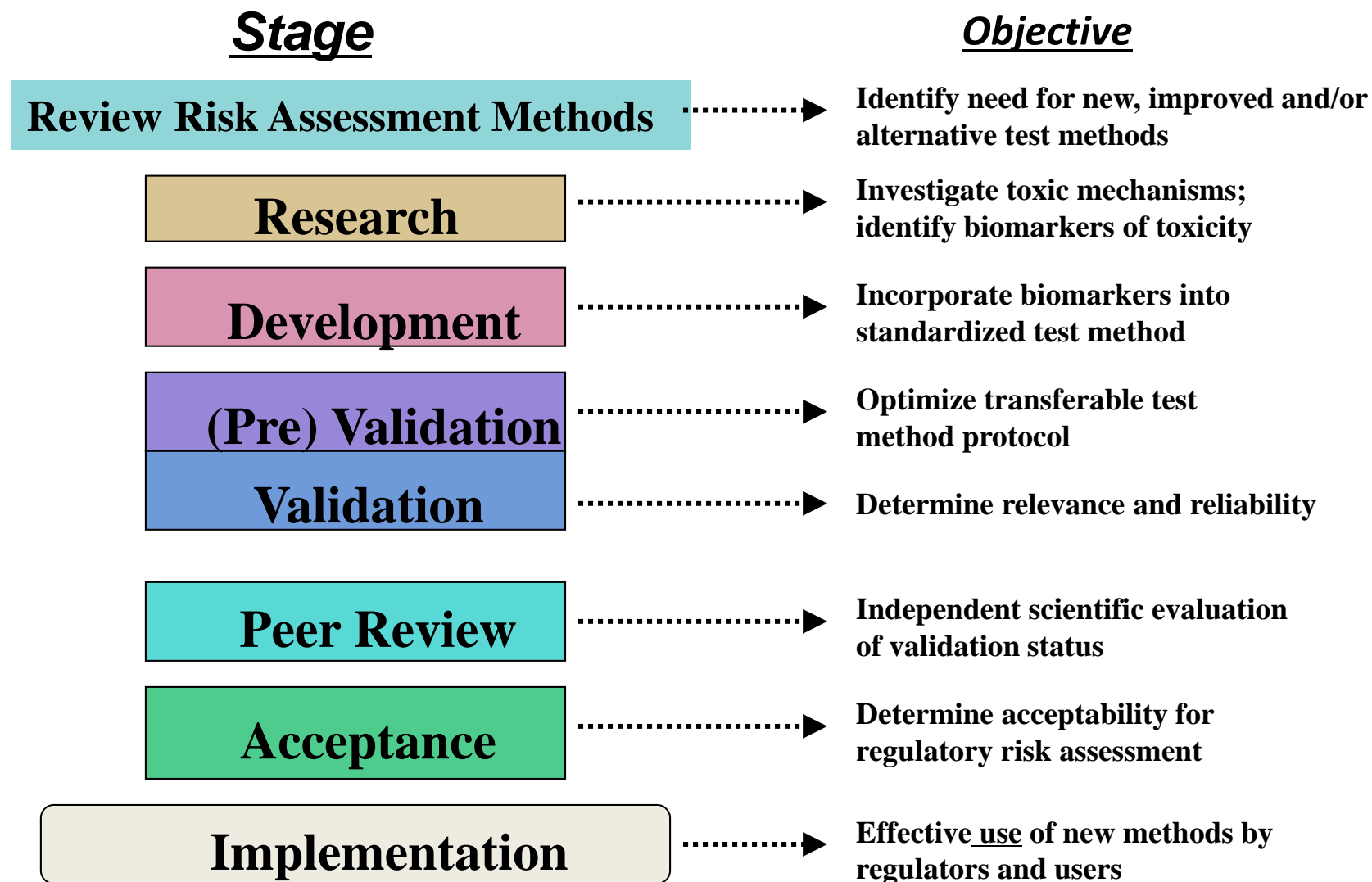
www.oecd.org/ehs/eChemPortal

Chemical Safety and Animal Welfare



Progress made
at the OECD

Test Method Evolution and Translation Process: Concept to Implementation



OECD Test Guidelines for *in vitro* test method (2016)

Class	Test methods
Corrosion	<i>In vitro</i> Skin Corrosion: Transcutaneous Electrical Resistance Test Method (TER) :TG430
	<i>In vitro</i> Skin Corrosion: Reconstructed Human Epidermis (RHE) test method :TG431
	CORROSITEX Skin Corrosivity Test :TG435
Skin irritation	<i>In vitro</i> 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

OECD Test Guidelines for *in vitro* test method (2016)

Class	Test methods
Skin sensitisation	<i>In Chemico</i> Skin Sensitisation, Direct Peptide Reactivity Assay (DPRA) :TG442C
	<i>In Vitro</i> Skin Sensitisation, ARE-Nrf2 Luciferase Test Method :TG442D
	<i>In Vitro</i> Skin Sensitisation, h-CLAT: TG
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
	Test Guideline for Stably Transfected Transactivation In Vitro Assays to Detect Androgen Receptor Agonists and Antagonists :TG
	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
	<i>In vitro</i> Mammalian Chromosome Aberration Test : TG473
	<i>In Vitro</i> Mammalian Cell Gene Mutation Tests using the Hprt and xprt genes : TG476
	<i>In vitro</i> Micronucleus Test : TG487
	<i>In Vitro</i> Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene : TG490
Skin absorption	Skin Absorption: <i>In vitro</i> Method :TG428

[Arch Toxicol](#). 2011 May;85(5):367-485. doi: 10.1007/s00204-011-0693-22011 May 1.

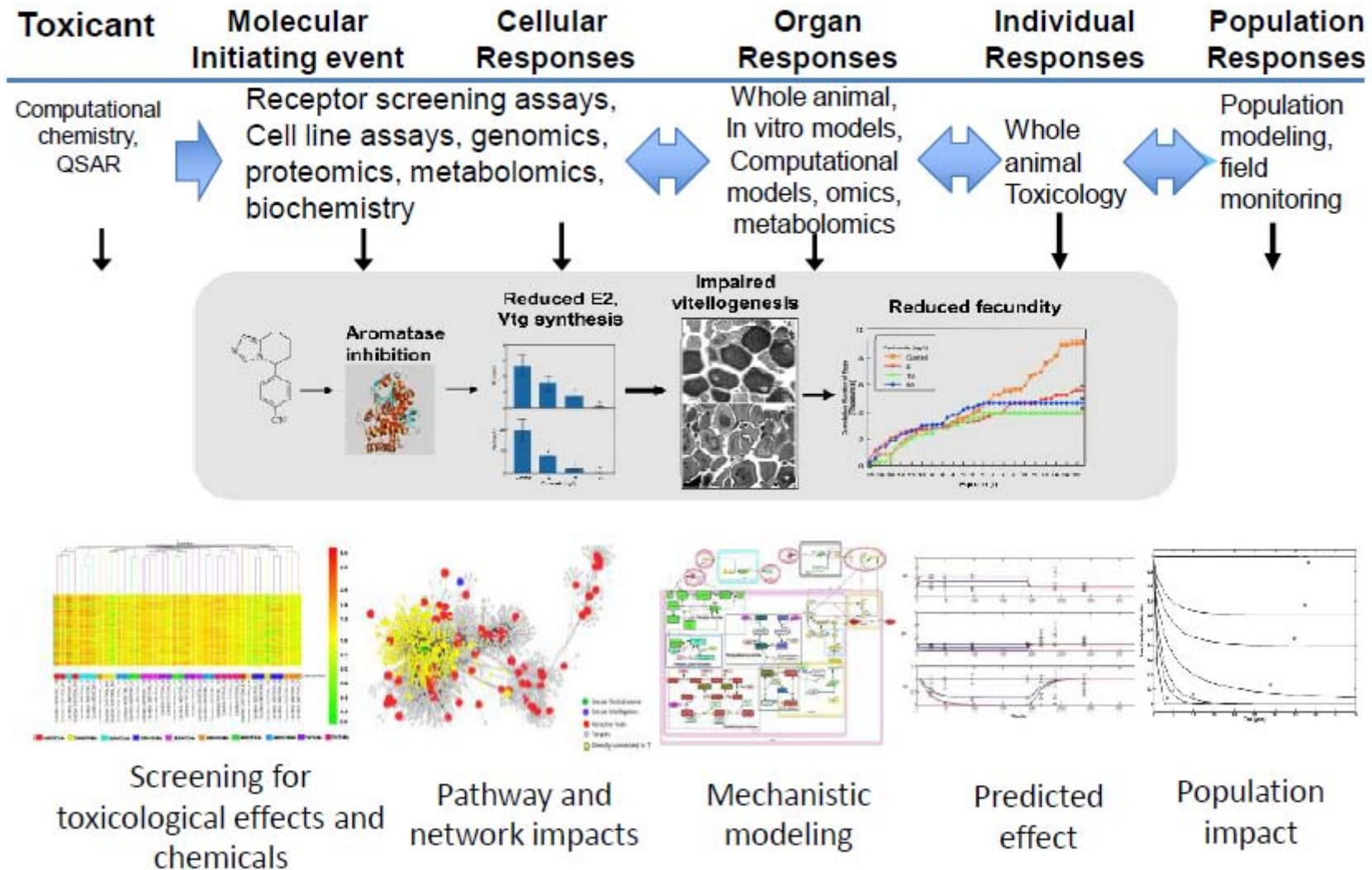
Alternative (non-animal) methods for cosmetics testing: current status and future prospects-2010. [Adler S](#), et al.,

In summary, the experts confirmed that it will take at least **another 7-9 years** for the replacement of the current *in vivo* animal tests used for the safety assessment of **cosmetic ingredients** for **skin sensitisation**.

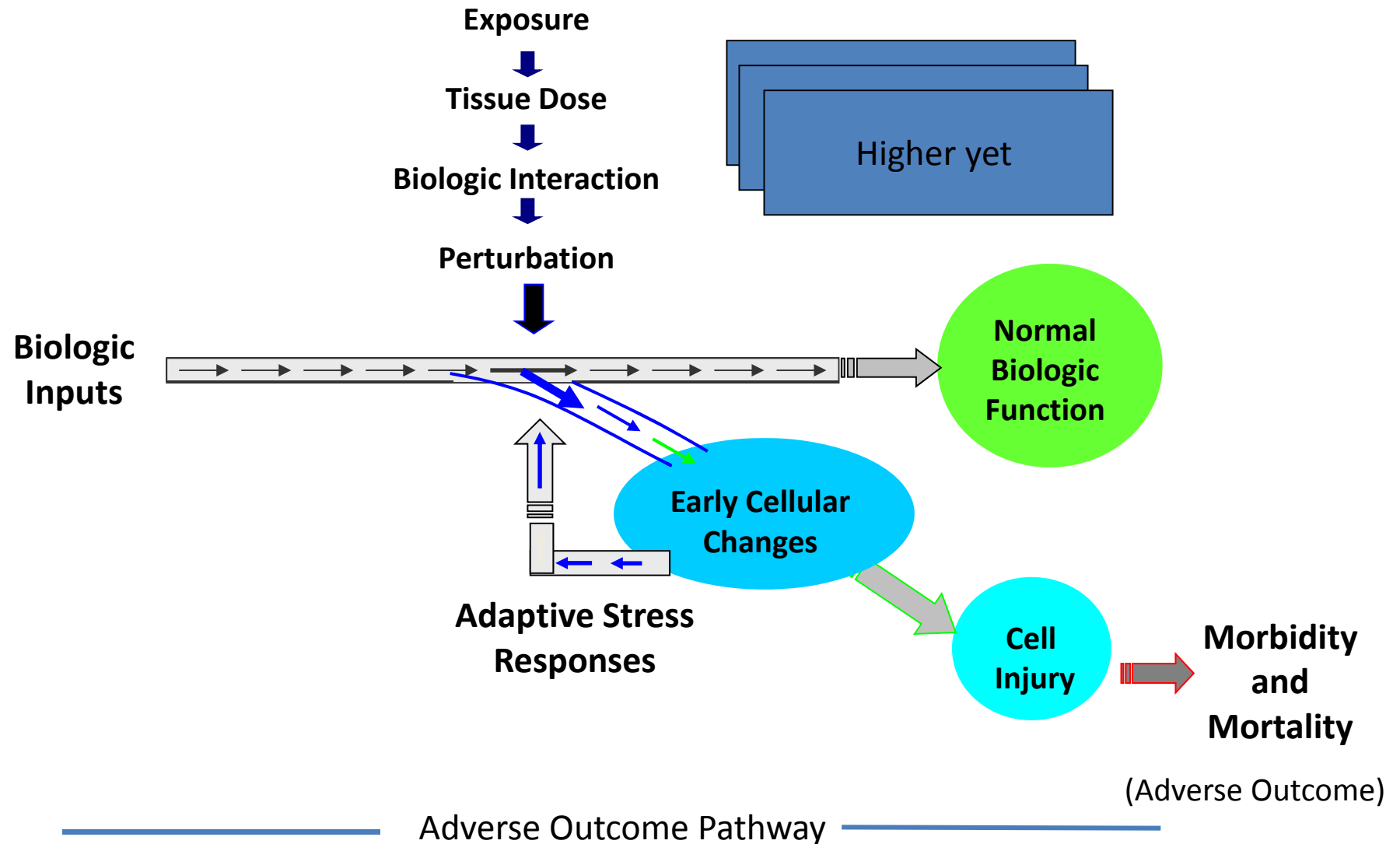
For **toxicokinetics**, the timeframe was **5-7 years** to develop the models still lacking to predict lung absorption and renal/biliary excretion, and even longer to integrate the methods to fully replace the animal toxicokinetic models.

For the systemic toxicological endpoints of **repeated dose toxicity, carcinogenicity and reproductive toxicity**, the time horizon for full replacement **could not be estimated**.

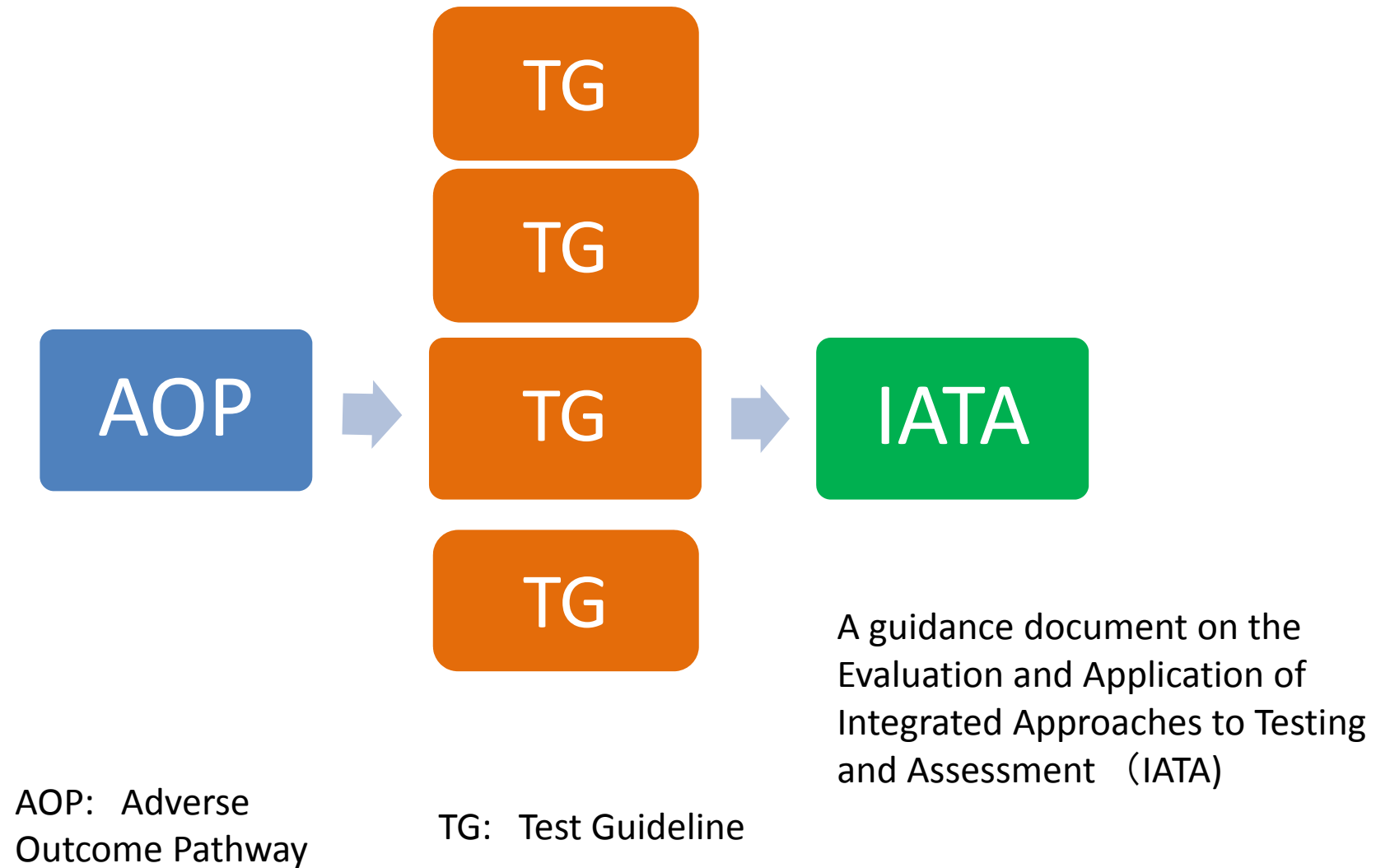
AOP and alternative animals in human health assessment



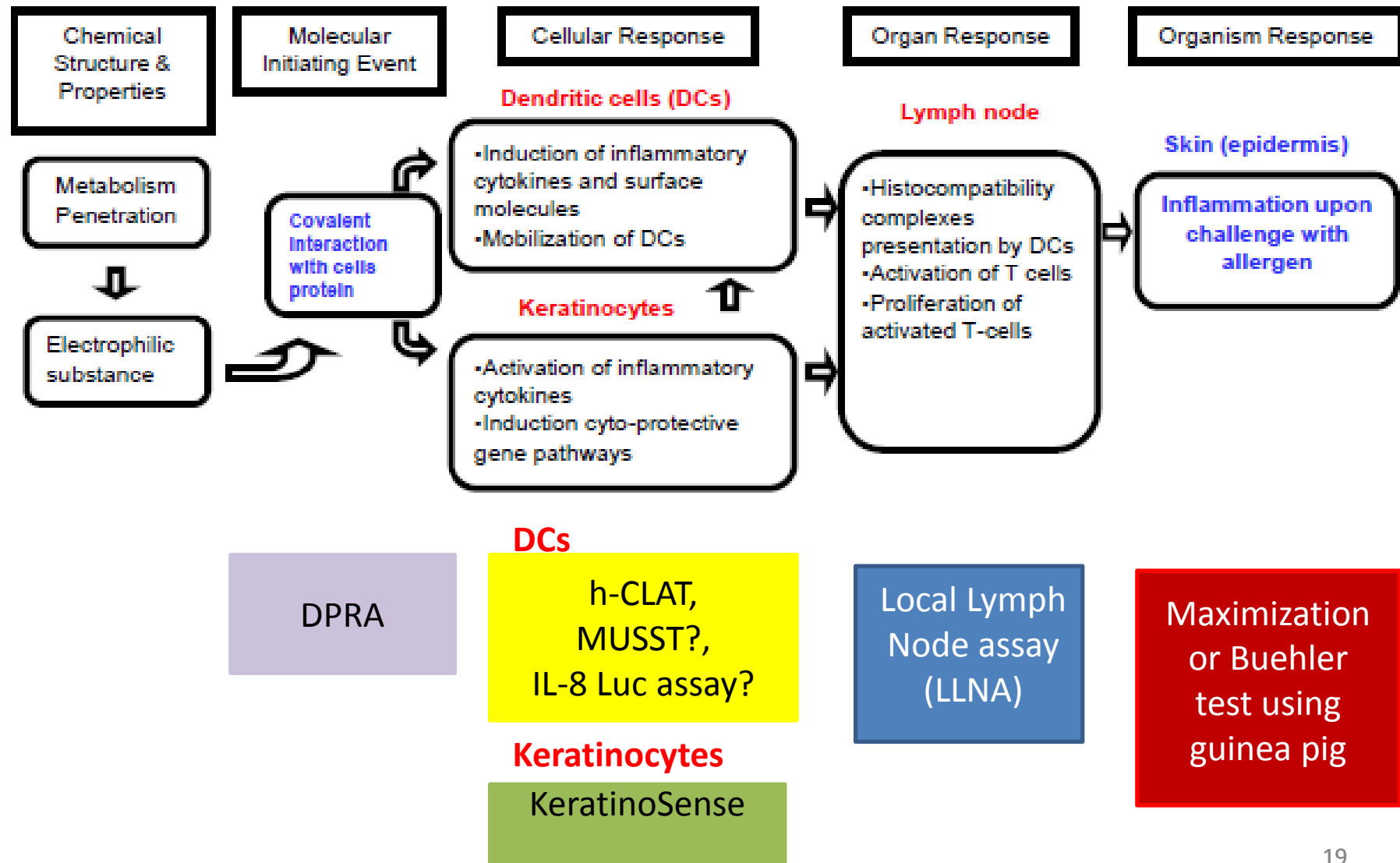
Perturbation of Toxicity Pathways



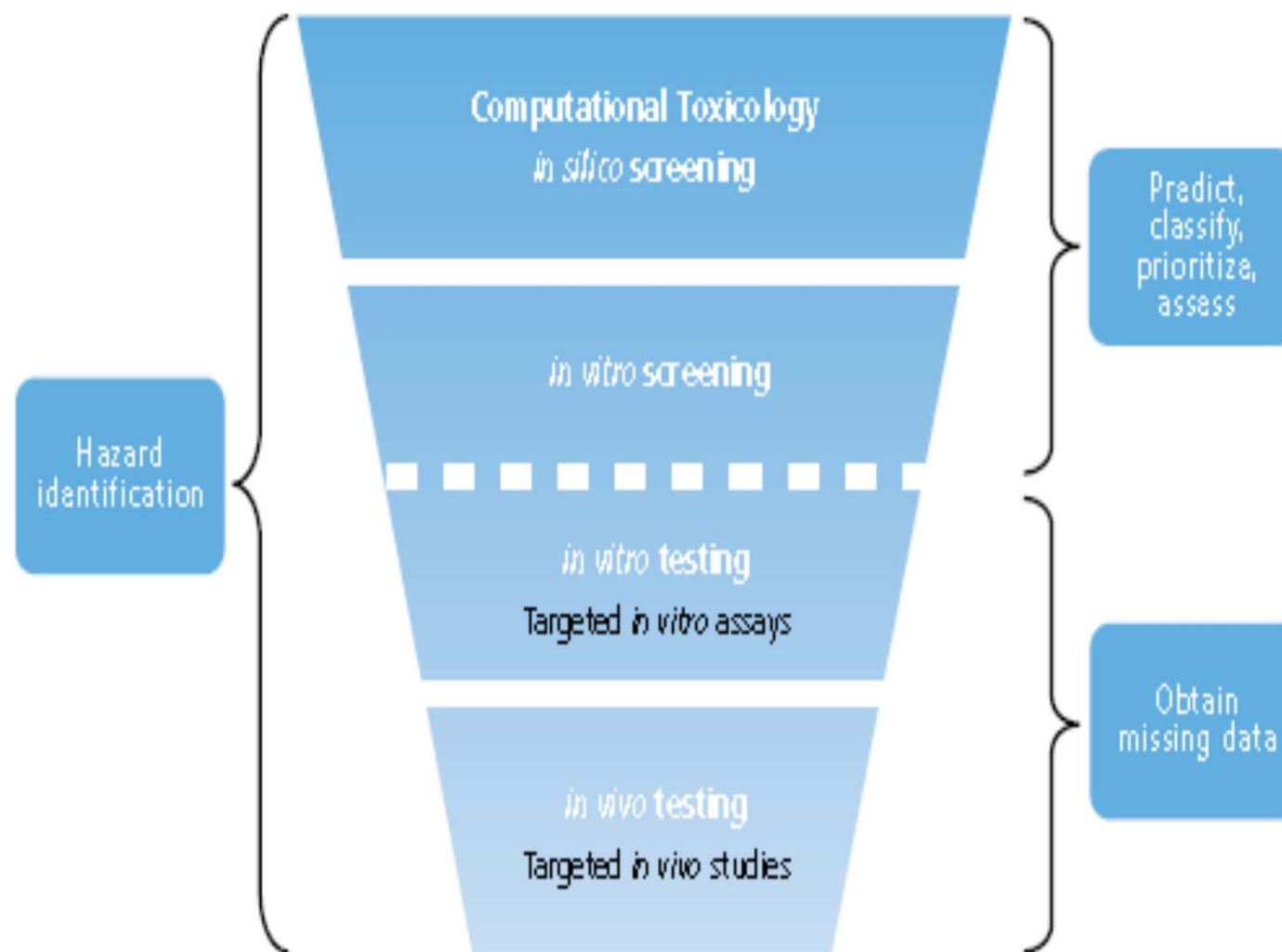
OECD strategy for regulatory acceptance



AOP for skin sensitization developed by OECD



GUIDANCE DOCUMENT ON THE EVALUATION AND APPLICATION OF **INTEGRATED APPROACHES TO TESTING AND ASSESSMENT (IATA)** FOR SKIN SENSITISATION



Summary in OECD activities

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)
- 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**) will be needed to substitute for the animal tests currently in use for specific Adverse Outcome Pathway (**AOP**) mechanistic coverage.

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



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 protocols¹ 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

Development, Optimization and Validation of an In Vitro Skin Irritation Test for **Medical Devices** Using the Reconstructed Human Tissue Model EpiDerm

H. Kandarova^{1,2}, J.A. Willoughby³, W.H.de Jong⁴, M.A. Bachelor², S. Letasiova¹, T. Milasova¹, B. Breyfogle², L. de la Fonteyne⁴, Y. Haishima⁵, K.P. Coleman⁶. ¹MatTek In Vitro Life Science Laboratories, Bratislava, Slovakia; ²MatTek Corporation, Ashland, MA; ³Cyprotex US LLC, Kalamazoo, MI; ⁴RIVM, Bilthoven, Netherlands; ⁵NIHS, Tokyo, Japan; ⁶Medtronic, PLC, Minneapolis, MN.

Assessment of dermal irritation is an essential component of the safety evaluation of medical devices. Reconstructed human epidermis (RhE) models have replaced rabbit skin irritation testing for neat chemicals (OECD TG 439). However, medical device extracts are dilute solutions with low irritation potential, therefore validated RhE - methods needed to be modified to reflect the needs of **ISO 10993**.



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:

Joint Regulators-Industry Working Group: Integrated Strategies for Safety Assessments of Cosmetic Ingredients

The purpose of *ad hoc* Joint Regulators-Industry Working Group (WG) is to outline principles that underpin the integration of novel methods and data in an exposure-led approach for the safety assessment of cosmetic ingredients.

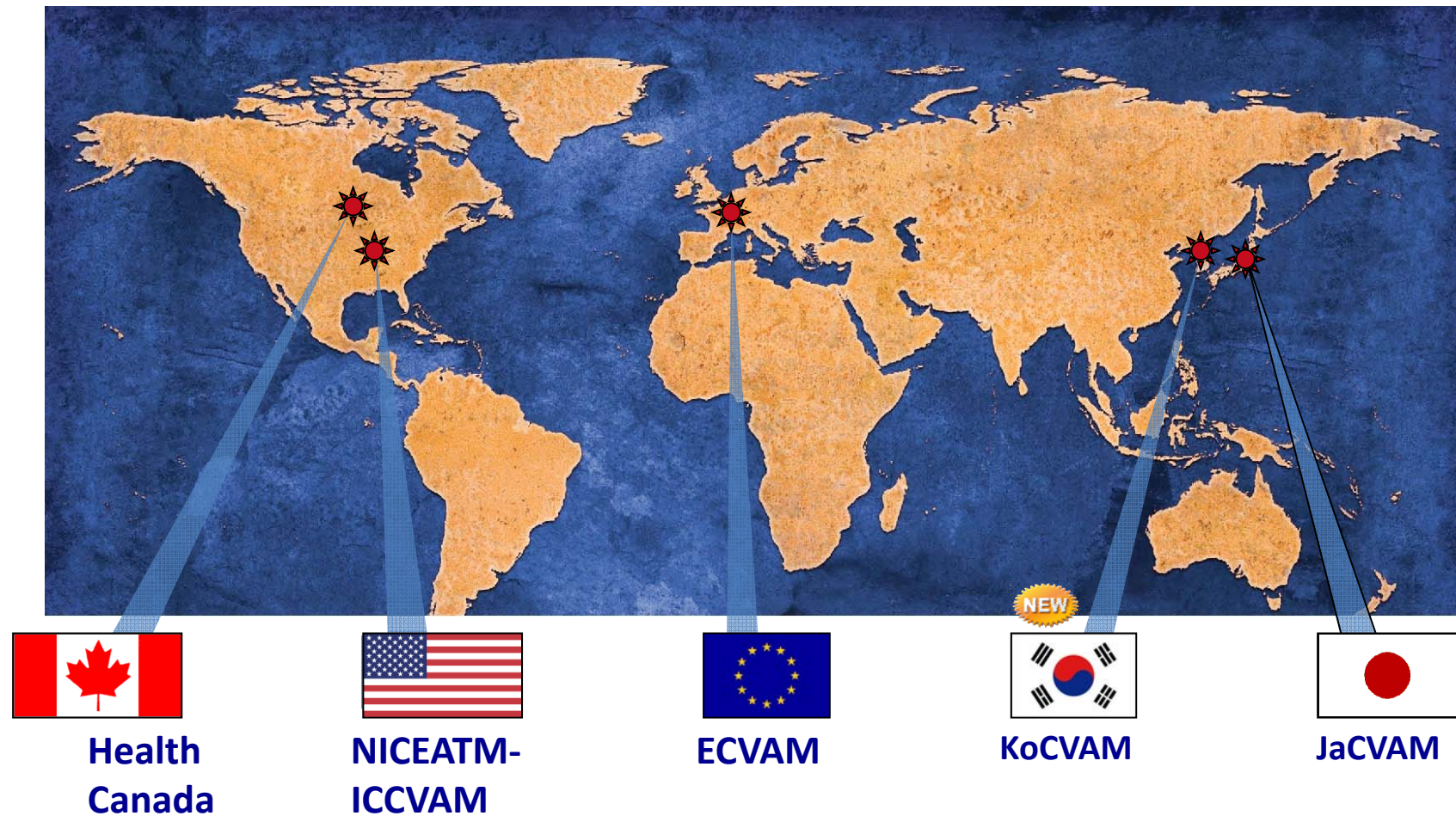
Novel methods that need to be considered include in-vitro tests, (quantitative) structure activity relationships [(Q)SARs], computational methods (including exposure models), and other evolving safety assessment tools.

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

ICATM (International Cooperation of Alternative Test Methods)

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



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



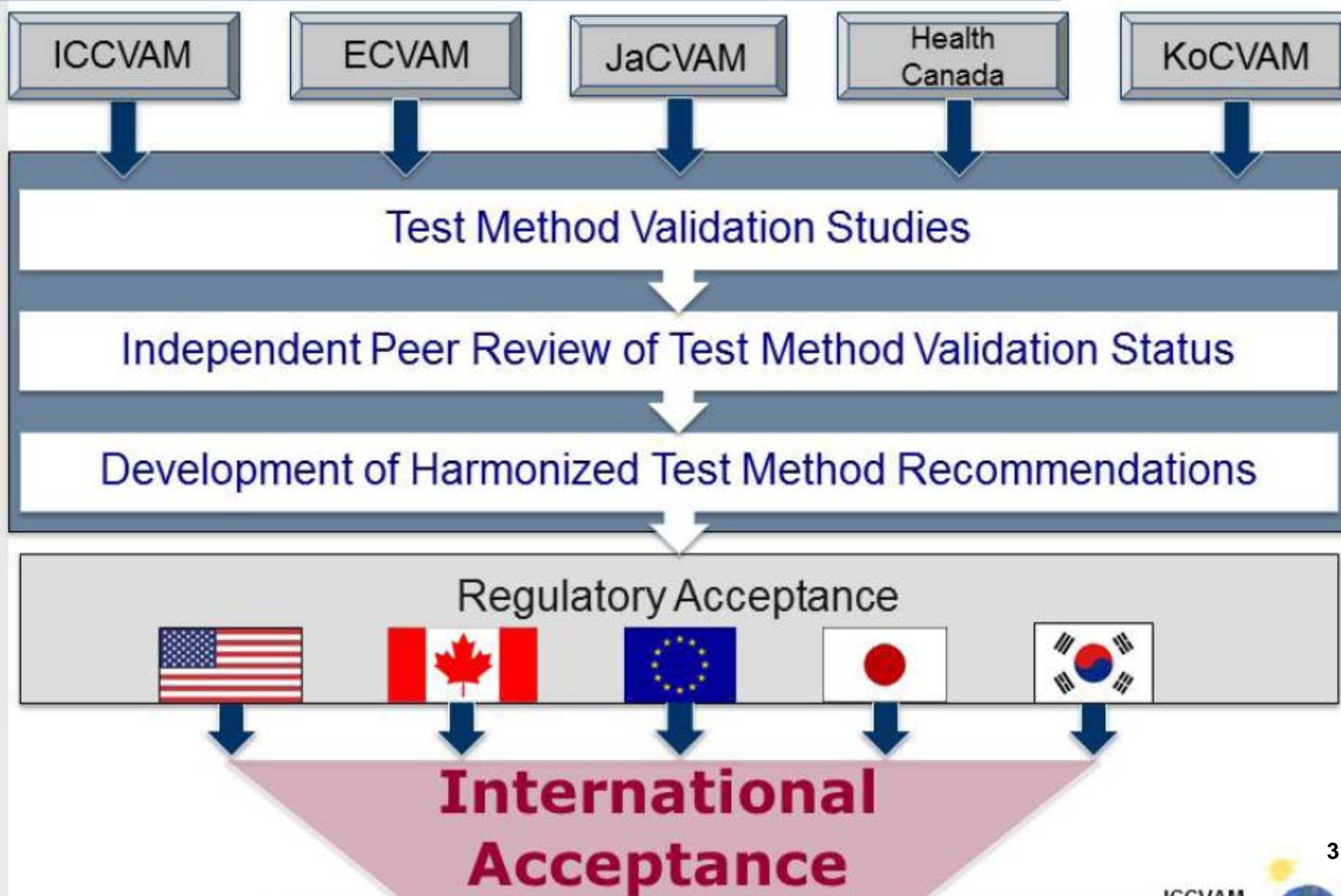
Signing of Memorandum of Cooperation

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



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.

OECD Test Guidelines developed by Japan

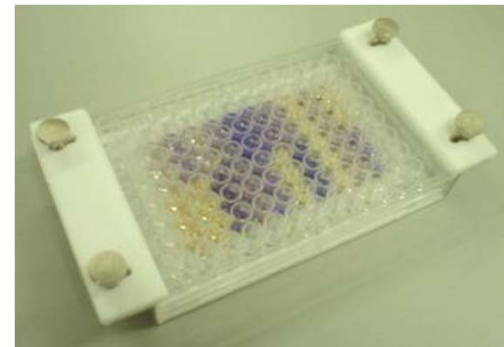
- ✓ Skin sensitization assay, LLNA : DA, TG 442A (2010)
- ✓ Skin sensitization assay, LLNA : BrdU-ELISA , TG 442B (2010)
- ✓ Skin irritation assay with LabCyte EPI-MODEL 24, TG 439 (2013)
- ✓ *In vivo* comet assay TG 489 (2014)
- ✓ Performance-based Test Guideline for stably transfected transactivation *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
- ✓ h-CLAT assay for skin sensitization testing (2016)
- ✓ Stable transfected transcriptional activation (STTA) assay for androgen disruptor screening (AR-Ecoscreen)(2016)³³

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.



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で 	Nov-08 	on going 		Draft test guideline 	ECVAM
	(2)Reconstructed human tissue test made in Japan	May-09 					JSAAE

Japanese developed test methods and regulatory acceptance

No.	Test methods	Alternative field	Validation	Peer review	Test guideline
1	Comet assay	Genotoxicity	JaCVAM	OECD expert	OECD TG489
2	ER-STTA antagonist	Endocrine disrupter	CERI, NIHS, NICEATM	OECD VMG-NA	OECD TG455
3	AR-EcoScreen		NIHS	OECD VMG-NA	OECD TG
4	LabCyte EPI-MODEL	Skin irritation	JaCVAM	OECD	OECD TG439
5	ROS assay	Ptototoxicity	JaCVAM	JaCVAM	ICH S10, OECD work plan
6	STE test method	Eye irritation	JSAAE, JaCVAM	ICCVAM	OECD TG490
7	SIRC-CVS		JaCVAM	JaCVAM	
8	Vitrigel-EIT		JaCVAM		
9	LabCyte CORNEA-MODEL EIT		JaCVAM		
10	LLNA: DA	Skin sensitisation	JSAAE	ICCVAM	OECD TG442A
11	LLNA: BrdU-ELISA		JSAAE	ICCVAM	OECD TG442B
12	h-CLAT		EURL ECVAM	ESAC	OECD TG
13	IL-8 Luc assay		JaCVAM	JaCVAM	OECD work plan
14	ADRA		JaCVAM		
13	Hand-1 Luc assay	Developmental toxicity	JaCVAM		
14	Balb assay	Cell transformation	EURL ECVAM	ESAC	
15	Bhas42assay		JaCVAM	ESAC	OECD Guidance document

International collaboration



20-24 August, 2017



Website

<http://wc10seattle.org/2016/home.aspx>

Society on the Alternative Test Methods

ASCCT: American Society for Cellular and Computational Toxicology

ESTIV: European Society of Toxicology In Vitro

EUSAAT: European Society for Alternatives to Animal Testing

JSAAE: Japanese Society of Alternative to Animal Experiments

KSAAE: Korean Society of Alternative to Animal Experiments

TATT: Chinese Society for Toxicological Alternative and Translational Toxicological

TTA: Chinese Society of Toxicity Testing and Alternatives

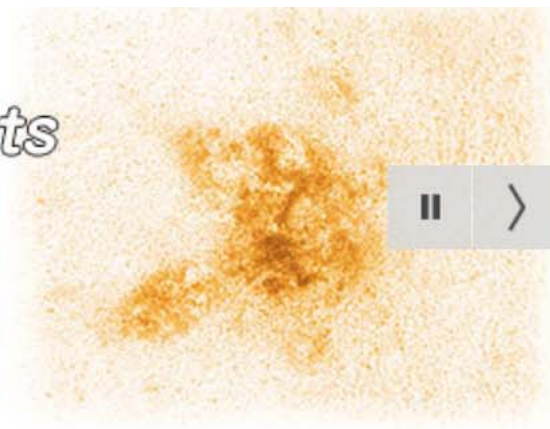
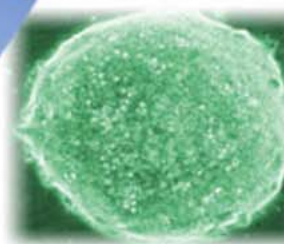
Asian Cooperation



The Japanese Society for Alternatives to Animal Experiments



Promotion of 3Rs
Replacement



Top

About Us

About Alternatives

Events

Publications

Awards

Links

Members

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."](#)

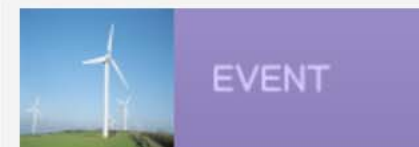
Sept. 3, 2014

["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](#)

日本語サイトへ



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**



International communication

Have been trying to set collaboration with Asian countries in addition to EU and USA etc.

- Memorandum with **KSAAE** (2008-)
- Memorandum with Chinese Society of Laboratory Animal Sciences (2008-2012)
- Memorandum with **EUSAAT** (2015)
- Memorandum with **ASCCT** (2015)

International Cooperation

2015 KoCVAM-JaCVAM Meeting

KoCVAM-JaCVAM meeting

August 23, 2015, Seoul, Korea

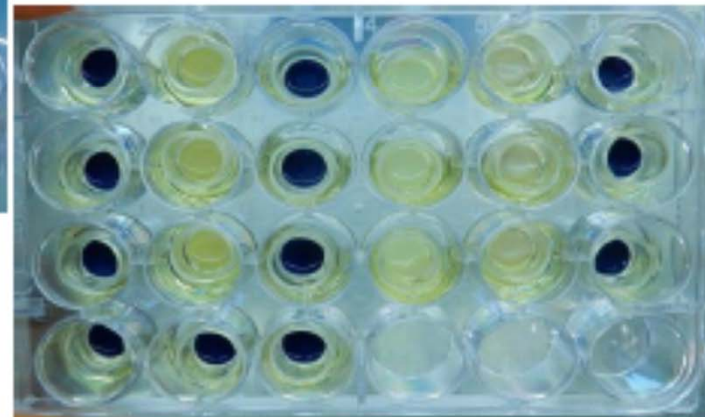
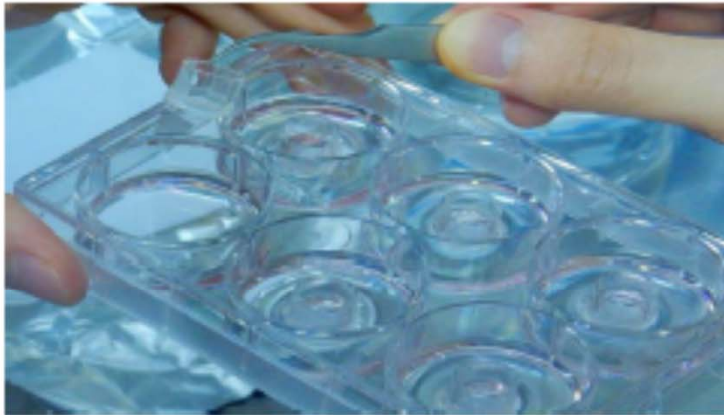
Shared JaCVAM's experience of proposing ATMs and making them adopted as OECD test guidelines



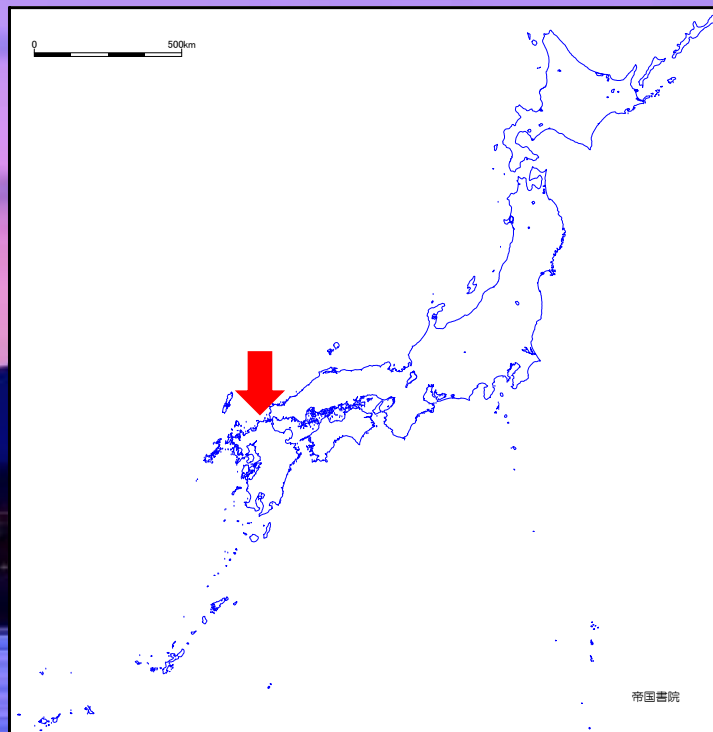
Enhance cooperation among Asian countries in the field of ATMs

Non-official support by JaCVAM

EPiTRI-SIT human epidermis model



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.

Registration and Accommodation Information

JSAAE Members and Nonmembers are invited to register for the Asian Congress 2016 using [Online Registration System](http://jsaae29.umin.jp/ac2016/registration.html) (<http://jsaae29.umin.jp/ac2016/registration.html>).

The system is designed for those who will be paying their registration fee by credit card.

Advanced Registration	Early Bird (Jun. 1st – Jul. 31th, 2016)	Standard (Aug.1st – Oct.10th, 2016)
	JPY 25,000	JPY 30,000

Abstract Submission Information

The Scientific Program Committee requires electronic submission of all abstracts using [Online Registration System](http://jsaae29.umin.jp/ac2016/call.html) (<http://jsaae29.umin.jp/ac2016/call.html>)

The deadline to submit an abstract is July 31th, 2016 in any calendar year.

Young Scientist Award

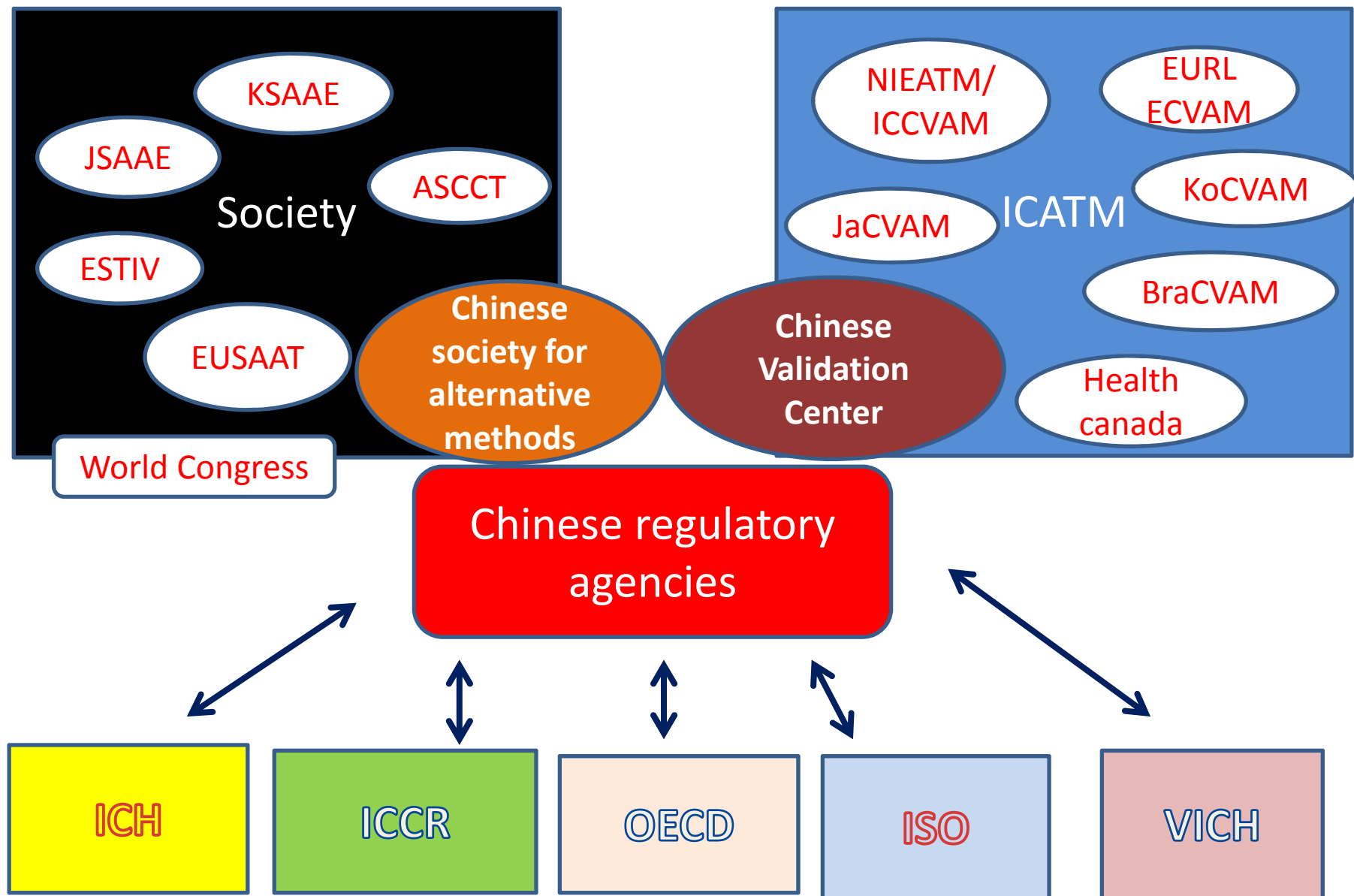
Young scientists up to 35 years, in essence graduate-, postgraduate- or PhD-students may [submit an abstract](http://jsaae29.umin.jp/ac2016/call.html) (<http://jsaae29.umin.jp/ac2016/call.html>) until July 31th, 2016. In addition, they have to complete an application for the Young Scientist Award, and to provide a document proving that they are inscribed as students at an established institution.

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

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





Japanese Center for the Validation of Alternative Methods

Office : New Testing Method Assessment, Division of Pharmacology,
National Biological Safety Research Center (NBSRC),
National Institute of Health Sciences (NIHS)

日本語

English



Search



www



jaovam.jp



About JaCVAM



Update on JaCVAM



Academic activities



Submission of Alternative
Methods to JaCVAM



International Cooperation

感谢您的关注

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)

News

⊕【NEW】news texts dummy texts news texts dummy texts
news texts dummy texts(2009.7.16)

⊕news texts dummy texts news texts (2009.7.3)

⊕news texts dummy texts news texts dummy texts news
texts dummy texts (2009.7.3)

Contents

⊕About JaCVAM

Message from JaCVAM / Policy and Mission of JaCVAM /
Organization of JaCVAM / Glossary /
Proposal for Engagement Rules

⊕JaCVAM Activities