ASCCT-ESTIV special webinar for Ukraine: Science for Policy, Policy for Science

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June-2022

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***We are scientists*, our responsibility to make sure that <u>policymakers</u> <u>understand the value of our science</u>**

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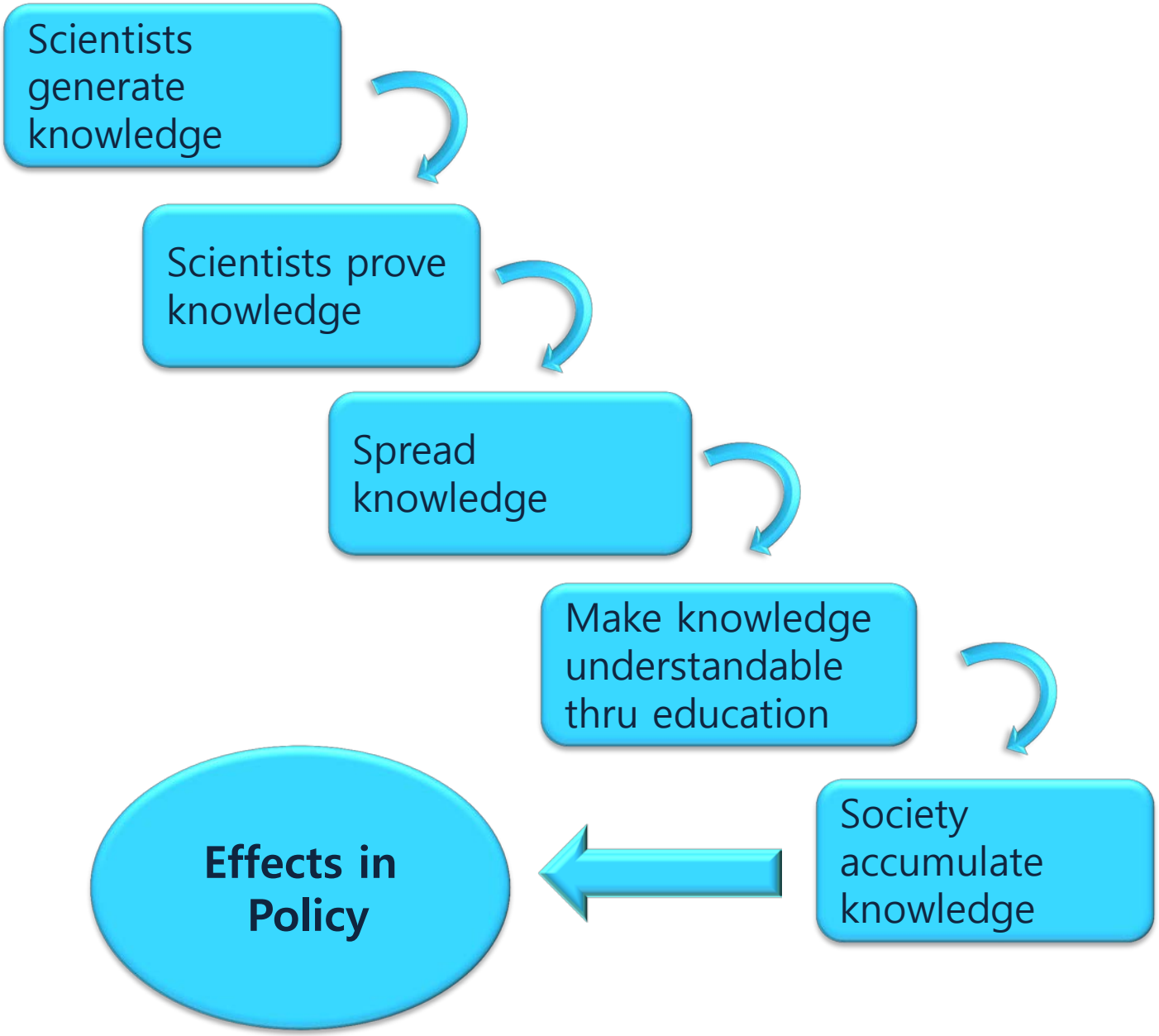
Science for Policy, Policy for Science



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Alternative Methods in Ukraine

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APPROVED
by order of the Cabinet of Ministers of Ukraine
of February 24, 2016 № 228-r

COMPREHENSIVE STRATEGY
implementation of Chapter IV
(Sanitary and Phytosanitary Measures)
of Chapter IV “Trade and Trade-Related Matters” of the Association Agreement between Ukraine, of the one part, and The European Union, the European Atomic Energy Community and their Member States, of the other part
Section 1. PUBLIC HEALTH

The name of the event	EU Legislation	Term of preparation Year	Term of implementation Year
67. Measures applied for the registration of plant protection products	**Regulation (EC) No 1107/2009 of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market**	2019	2020

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Commission Regulation (EU) No 284/2013 of 1 March 2013 set out the data requirements for plant protection products, following **Regulation (EC) No 1107/2009** of the European Parliament and the Council concerning the placing of plant protection products on the market

Commission Regulation (EU) No 284/2013 applied the following principles:

- tired approach in the testing
- priority is given to in vitro methods
- reduce animals in the studies

All of this principles applied in Ukraine.

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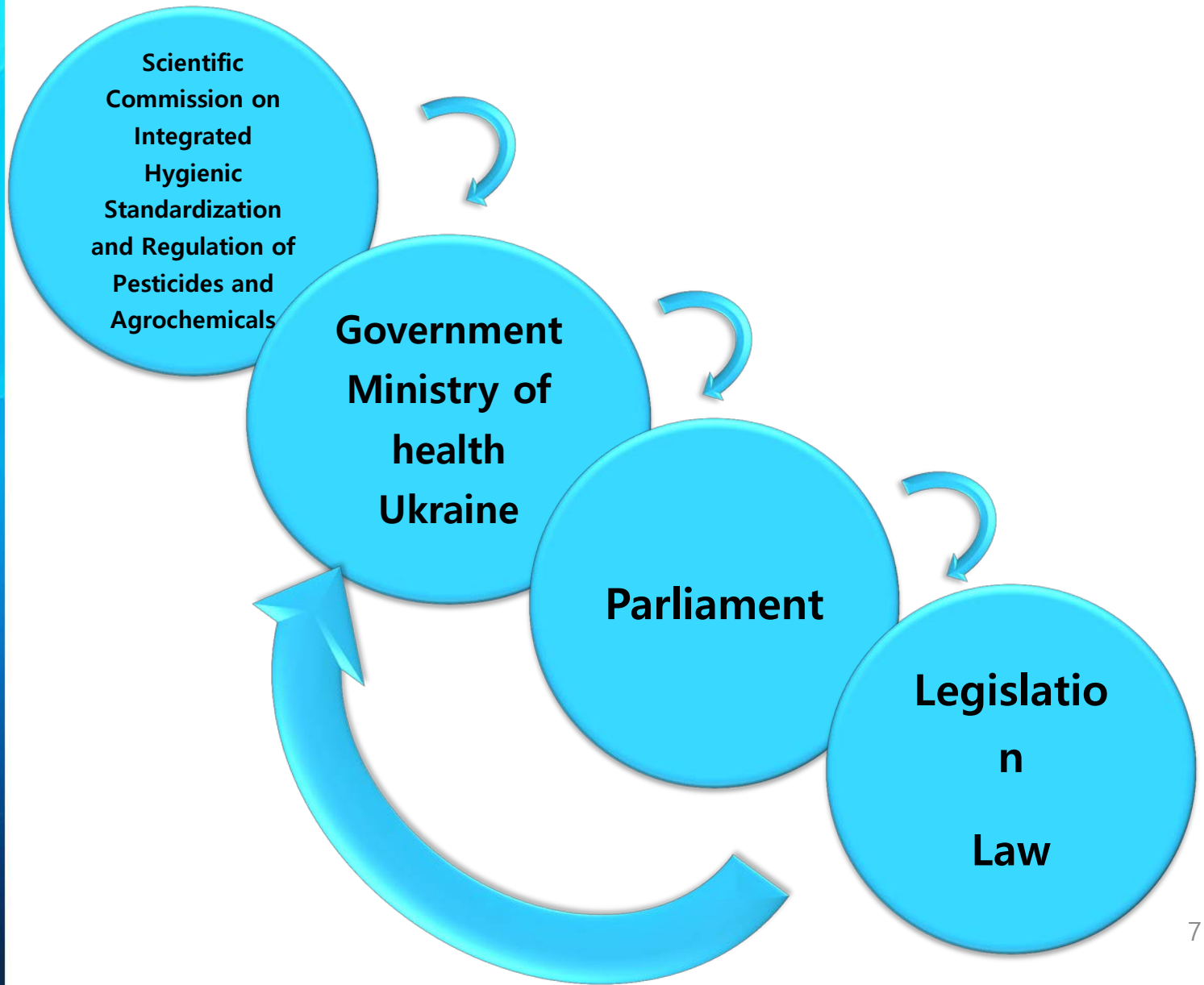
Process implementation of scientific knowledge



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CABINET OF MINISTERS OF UKRAINE
Decree

of January 20, 2021 № 65
Kyiv

About approval of Technical regulations on cosmetic products

It should come into force in August 2022 (postponed)

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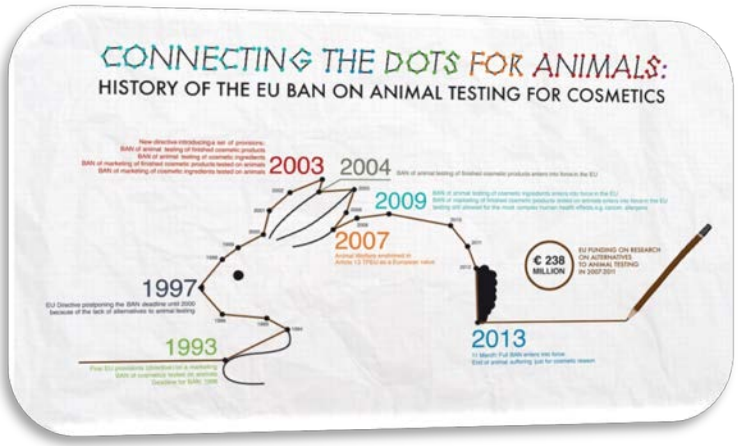
Regulation (EU) № 1223/2009
Of the European Parliament and of the Council
of November 30, 2009
for cosmetic products
replaces all other regulations
acts and directives

The EU has banned the test cosmetic products on animals from March 11, 2013



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Implementation of European law in the Ukrainian legal field

Regulation (EC) № 1223/2009

Technical regulations on cosmetic Products

of January 20, 2021 № 65

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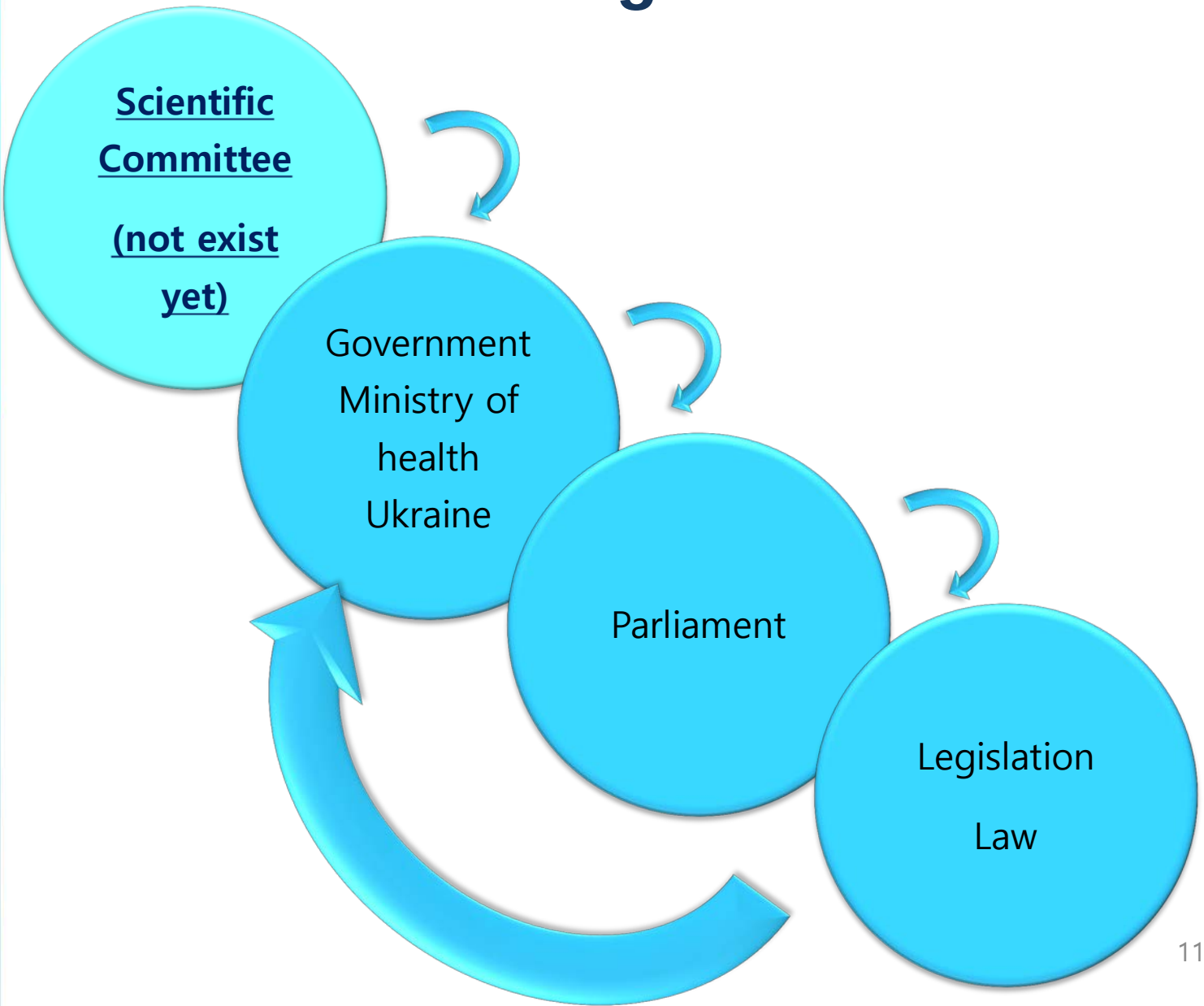
Process implementation of scientific knowledge



ECOHYNTOX

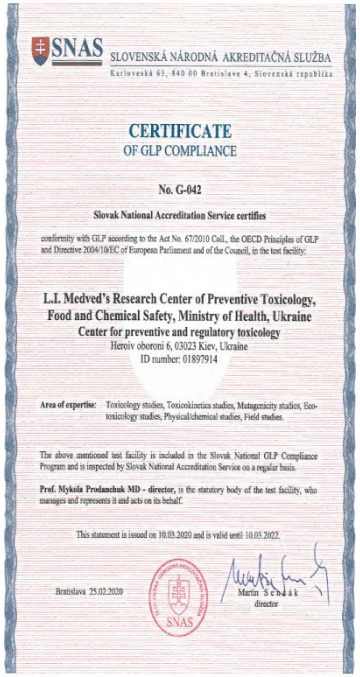
State Enterprise
L.I. Medved's
Research Center of Preventive Toxicology,
Food and Chemical Safety,
Ministry of Health of Ukraine

E C O H Y N T O X ACCREDITATION

1. Certificate of accreditation of National Accreditation Agency of Ukraine (NAAU) ISO/IEC 17025-2017 General requirements for the competence of testing and calibration laboratories

2. Certificate WHO TFI – 2007 Validation procedure of method of TFI in TobLabNet

3. Certificate of accreditation Slovak National Accreditation Service (SNAS) 11.08.2011 № G-042) GLP OECD up to 2022


SNAS SLOVENSKÁ NÁRODNÁ AKREDITAČNÁ SLUŽBA
Karloveská 65, 840 00 Bratislava 4, Slovenská republika

CERTIFICATE
OF GLP COMPLIANCE

No. G-042

Slovak National Accreditation Service certifies

conformity with GLP according to the Act No. 67/2010 Coll., the OECD Principles of GLP and Directive 2004/10/EC of European Parliament and of the Council, in the test facility:

L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health, Ukraine
Center for preventive and regulatory toxicology
Heroiv oboroni 6, 03023 Kiev, Ukraine
ID number: 01897914

Area of expertise: Toxicology studies, Toxicokinetics studies, Mutagenicity studies, Eco-toxicology studies, Physical/chemical studies, Field studies.

The above mentioned test facility is included in the Slovak National GLP Compliance Program and is inspected by Slovak National Accreditation Service on a regular basis.

Prof. Mykola Prodanchuk MD - director, is the statutory body of the test facility, who manages and represents it and acts on its behalf.

This statement is issued on 10.03.2020 and is valid until 10.03.2022.

Bratislava 25.02.2020

Martin Schaák
director

SNAS


НАЦІОНАЛЬНЕ АГЕНТСТВО З АКРЕДИТАЦІЇ УКРАЇНИ
НАЦІОНАЛЬНИЙ ОРГАН УКРАЇНИ З АКРЕДИТАЦІЇ

АТЕСТАТ ПРО АКРЕДИТАЦІЮ

Зареєстрований у Реєстрі
03 вересня 2019 року
за № 20375
чинний до 02 вересня 2024 року

Дата першої акредитації: 03 вересня 2019 року

НАЦІОНАЛЬНЕ АГЕНТСТВО З АКРЕДИТАЦІЇ УКРАЇНИ ЦИМ ЗАСВІДЧУЄ КОМПЕТЕНТНІСТЬ

Дослідницько-випробувального токсикологічного центру ДЕРЖАВНОГО ПІДПРИЄМСТВА «НАУКОВИЙ ЦЕНТР ПРЕВЕНТИВНОЇ ТОКСИКОЛОГІЇ, ХАРЧОВОЇ ТА ХІМІЧНОЇ БЕЗПЕКИ ІМЕНІ АКАДЕМІКА Л.І. МЕДВЕДЯ МІНІСТЕРСТВА ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ»

03680, м. Київ, вул. Героїв оборони, буд. 6

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ВІДПОВІДНО ДО ВИМОГ ДСТУ ISO/IEC 17025:2017 (ISO/IEC 17025:2017, IDT)

Сфера акредитації визначена додатком до цього атестату.

Голова В.В. Красюк

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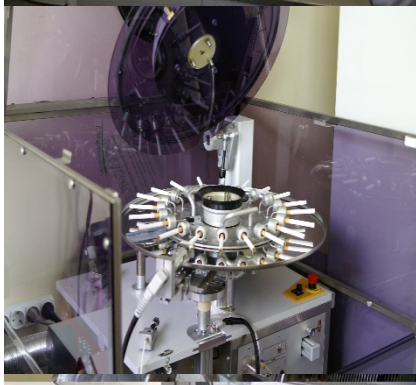
Toxicological studies from α to Ω

Full range of toxicological studies required for risk/ safety assessment of a wide range of chemicals, including:

- **Pesticides and agrochemicals;**
- **Biocides;**
- **Foods and chemicals in food;**
- **Cosmetics;**
- **Polymers and plastics;**
- **Industrial chemicals;**
- **Industrial emissions and sinks;**
- **Pharmaceuticals and medical products;**
- **Cigarettes and tobacco products;**
- **Veterinary medicines**



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U3RC

The Ukrainian 3Rs Center

Ukrainian 3Rs Center

The Ukrainian 3Rs Center. Mission, goal, results.

Nataliia Bubalo, Serhii Kolesnyk, Yana Kolianchuk, Mykola Prodanchuk, Maryna Zinovieva, Petro Zhminko, Inna Rashkivska

Introduction

At the beginning of 2020, on the initiative group of scientists who work in vitro and in silico toxicological fields Ukrainian 3Rs Center (UN3RC) was created. We invited a group of scientists who work in vivo toxicological field (DNT, DART, acute, subchronic, chronic toxicity) to be members of the UN3RC. The result of a collaboration between these two groups was the implementation of three in vitro methods (OECD 431, OECD 439, OECD 492) on a facilities LI. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety, Ministry of Health. It is the biggest and basic Toxicological Research Center in Ukraine.

We have tested dozens of pesticides (technical substances) and all substances on the list for the proficiency tests. You can find some results of our study in Table 1.

Table 1. In vitro eye irritation test results

#	Testing Substance	Content	Results		Classification in vitro	Classification in vivo (where available, data from GLP laboratory)
			Mean viability	Diff of visib		
1	Acifluorfen	Acifluorfen 90%	1.5	0.17	I	Cat I
2	Mixture 1	120 g/l Imazalil + 60 g/l Tebuconazole	3.3	0.81	I	
3	Mixture 2	200 g/l Trinexapac-ethyl + 70 g/l Propiconazole	3.9	0.21	I	
4	Mixture 3	100 g/l Flumetsulam + 75 g/l Florasulam	11.9	2.53	NI	
5	Almaultycon	95.08%	13.7	6.43	NI	
6	Fenpyroximate	95.12%	84.9	12.19	NI	NC
7	Kinoro Exacomat-Protein					
8	Serum	100.00%	89.4	3.47	NI	
9	Ortisanone	700 g/kg dithianone	6.1	2.39	I	
10	Mixture 4	florasulam 4.28 g/l + 2,4-D ethylhexyl ester 452.42 g/l	11.2	8.36	I	
11	Mixture 5	S-metolachlor 312.5 g/l + terbuthylazine 187.5 g/l	15.1	3.26	I	
12	Acetamiprid	99.00%	80.9	0.78	NI	NC
13	Quizalofop-p-ethyl	95.55%	109.9	0.72	NI	NC
14	Triasulfuron	97.50%	102.8	0.65	NI	NC

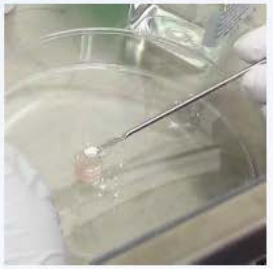
Disccusion

These additional facts are important to implementing alternative methods, reducing animal use and comparability of in vitro results with animal data special during reregistration of pesticides. These activities will help save the lives of 120 animals annually.
The application of in vitro method is one step to GHS implementation in Ukraine. Seeing, The Ukrainian national pesticides health hazard classification system (UAC) is in place and it is solely based on results of in vivo studies. The main challenge encountered was the lack of a regulatory basis for alternative methods application and interpretation of the results for classification in accordance with UAC [1-3].
As the application of in vitro method to meet different criteria set in GHS and UAC will require additional research and validation of other in vitro criteria of mentioned methods, it is obvious that implementation of GHS in Ukraine is the fastest and most efficient way to enable the application of already validated in vitro methods. Table 2. →

Another positive fact of implementing the in vitro tests made it possible to adopt a new Regulation of Cosmetics product in Ukraine. According to this legislation, testing cosmetics on animals is forbidden. This law will be in force in August 2022.

The 3R principles should be understandable and actively promote among involved persons and the society. The best way to achieve this goal is through education. Module "The alternative methods. 3R principles" was included in Toxicological Course at The National University of Food Technologies. Their participants are future technologist of cosmetics products.
Also, it is a part of a Toxicology Course for specialist (people from the government, industry, regulators, scientists)

We strongly believe that only collaboration that mode gives the effective way to use alternative methods like in vitro and in silico, which relate to the first postulate of 3Rs principles. But, in some study where animals strongly involved and methods mentioned above are far from the full implementation (such as DNT, DART, Chronic Toxicity Tests etc.) should be used the other two postulates (Reduction and Refinement) and methods which support them. In this case, people who closely work in these areas (DNT, DART, Chronic Toxicity Tests etc.) and has knowledge in alternative methods can realise it more effective and create new approaches.



Material and Methods

In those studies, three in vitro tests was used: skin irritation test, skin corrosion test and eye irritation test using human reconstructed tissues EpiDerm TM and EpiOcular TM. Each test was performed according to OECD TGs 439, 431 and 492, respectively [4-6]. Conclusions made according to the results obtained in this in vitro study coincide with conclusions made from in vivo tests from our archive date [7,8]. All tests were carried out at facilities LI. Medved's Research Center at the GLP laboratories.

Conclusion

The Ukrainian 3Rs Center is a platform for popularisation and implementing alternative methods and promotes 3Rs principles.
It is a tool for communication between professionals in government, industry and science, who can impact legislation to protect animals and, on a legislative level, accept and oblige to use alternative methods.

The U3RC, with strong collaboration with the Ukrainian Society of Toxicologist will create an education centre to promote Replacement, Reduction and Refinement Methods of animal use. Young scientists and professionals will be educating in Alternative Test Methods for further implementation.

References

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Important Cooperation
Research Center and University

L.I. Medved's Research Center of Preventive Toxicology, Food and Chemical Safety

University of Food Technology

Ministry of Health of Ukraine

Ministry of Education and Science of Ukraine

Ukrainians fight for the Peace in the ALL World

Toxicologist for Toxicologist

Personal acknowledgement to:

Helena Kandarova

Arne Jaksch