

The central role of animal testing in drug development and the identification and assessment of endocrine disrupting chemicals

ESE Statement following European Citizens Initiative on Animal Testing (ECI(2021)000006)

The European Society of Endocrinology (ESE) feels compelled to comment on the recently adopted European Citizens Initiative (ECI) on “Save Cruelty Free Cosmetics - Commit to a Europe without animal testing”. As part of the Biomed Alliance in Europe it has already provided input on the third part of the initiative “Modernise science in the EU.” As pointed out in the Biomed Alliance in Europe statementⁱ, the proposed phase-out of all animal testing in the EU will have a detrimental effect on biomedical research and will significantly hinder the search for new insights into the characteristics and progress of diseases and the development of life saving treatment options for patients.

ESE would also like to express its concern with the second part of the initiative to “modernise science in the EU” and more specifically “ensure human health and the environment are protected by managing chemicals without the addition of new animal testing requirements.” While noble in its cause, the initiative overlooks the crucial role animal testing continues to play in identifying and assessing chemicals with endocrine disrupting properties, a specific area of research ESE wants to focus on in this statement.

These Endocrine Disrupting Chemicals (EDCs) which include bisphenols, phthalates, and PFAS, among other chemicals in commerce, are pervasive and linked to serious adverse effects on endocrine systems, leading to diseases such as infertility, diabetes, cancer, and altered neurological development. Health impacts from EDC exposures are widespread and cause suffering throughout the European Union in humans as well as animals. Their continuous identification and assessment is key to improve public health in the EU and beyond. Importantly, the current scientific criteria for identification of a chemical as an EDC in the EU require evidence of adversity in an intact animal organism. Ban on animal experiments would therefore prevent identification of chemicals as EDCs.

Currently EDC testing will still need intact animal testing as available in vitro/silico methods are not yet predictive enough. The endocrine system is a highly complex mechanism, whereby different glands, the hormones they produce and the target cells, tissues and organs are all part of a delicate interaction. Small changes in one hormone system can impact other systems. These complex interactions require animal models to fully assess the impact of external factors, be it chemicals in the environment, or the development of new pharmacological treatment options. The metabolic system for example is difficult to mimic by means of alternative testing methods. In vitro screening approaches are highly welcome to reduce number of suspected EDCs to be tested in in vivo models as well as to clarify underlying modes of action.

Our community very well understands and shares societal concerns with regards to animal testing and strongly supports the intensification of efforts to develop and adopt alternative approaches including for the identification of EDCs. As the representative of over 22.000 European endocrinologists including many clinical and basic researchers, ESE supports the 3Rs principle and strongly feels that animal testing should only be applied in case of scientific necessity where alternative methods are unable to obtain the same outcomes. As such, we support continuation of necessary animal testing for advancing endocrine research, for the identification of EDCs as well as the development of life-saving treatments to the benefit of patients.

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ⁱ Biomed Alliance in Europe. *New Citizens Initiative attempting to limit animal testing will have detrimental effect on life-saving health research.* [Statement ECI - final.pdf \(biomedeuropa.org\)](#)