

**Question for written answer E-000544/2023
to the Commission**

Rule 138

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Subject: Developing computer modelling, or biomodelling, to replace animal testing

Computer modelling, or biomodelling, simulates human physiology and predicts the evolution of a disease and the effect of medicines on patients.

This predictive ability is based on the combination of many sciences and technologies, including human biology, chemistry, mathematics, computing, etc. A huge amount of data is required, but constant progress in the IT field is rapidly increasing the potential of this technique.

Oxford University researchers have thus created a computer simulation, Virtual Assay, to predict whether molecules are toxic to the heart. This software models cardiac cells and immediately eliminates medicines that are toxic to the heart.

This biomodelling has made it possible to predict correctly – in 89% of cases – whether a molecule could cause arrhythmia. In comparison, this prediction can only be made in 75% of cases when animal testing is used.

The computer model is therefore more effective than the animal model in this area of research and could reduce by two to three years the time needed to develop medicines.

Will the Commission support the development of this alternative to animal testing?

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