

# TOX Free

## A new generation of biosensors

The **TOX-Free** project aims to develop innovative biosensors, able to detect neural and cardiac toxicity

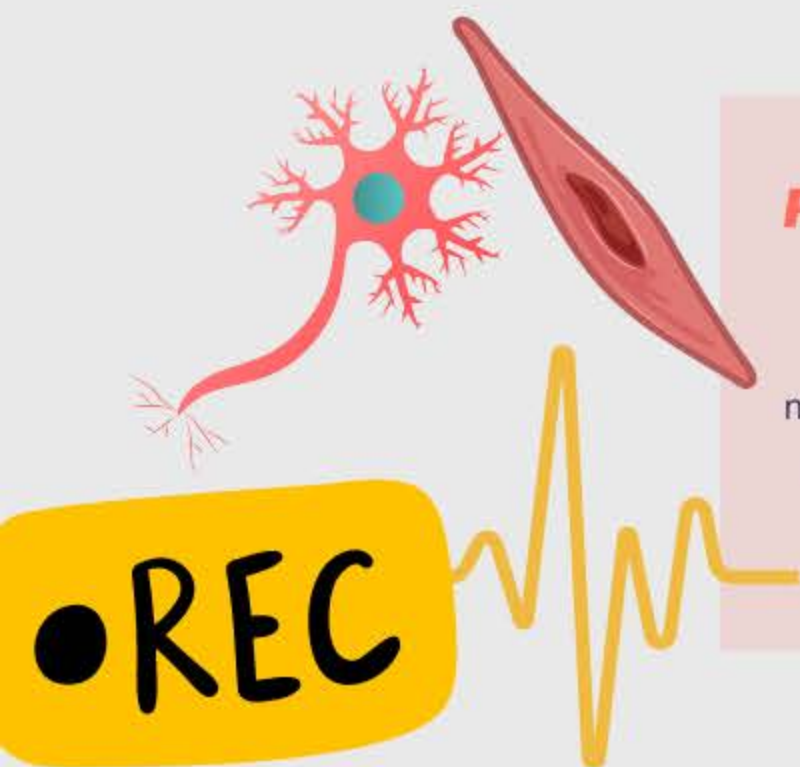
### A toxicity hard to detect

**Drugs, pesticides and chemical pollutants** cause toxicity to heart and brain cells. However, at present day there is a lack of assays for the accurate and sensitive assessment of toxicity in the cardiac and central nervous systems.



### Record cells altered activity

To address this limitation, the **TOX-Free** project is developing a non-invasive nanotechnology-based technique that allows to **record**, in vitro, **electrical signals** from human neuronal and cardiac cells.



### A mirror as a sensor

The key-enabling technology relies on the **VICE** (Virtual mirror Cell) concept. VICE transforms the electrophysiological activity of neurons and cardiomyocytes in light signals that can be monitored with simple **optical cameras**. These biosensors will find direct applications in **toxicology** and **pharmacology** as well as in basic **biology** studies.



Find out more on TOX-Free, following its results and developments, on:



<https://tox-freeproject.eu>

TOX-Free is funded by European research and innovation programme Horizon 2020 (grant No 964518).

