

FRAME Alternatives Laboratory chosen for major European liver research collaboration

The FRAME Alternatives Laboratory is one of 51 partners from 16 countries working with COST (European Cooperation in Science and Technology) to research the causes of drug-induced liver injury in a project known as the Pro Euro DILI Network.

Idiosyncratic drug-induced liver injury, or DILI, is an acute adverse hepatic reaction that occurs in a small proportion of patients exposed to a drug. It can lead to illness, disability, life-threatening liver failure, the need for liver transplantation and death.

The complex reasons why DILI occurs in some patients and not others are not well understood, which is why DILI represents a major challenge for clinicians, the pharmaceutical industry and regulatory agencies worldwide.

The organisation said: "DILI, due to commonly used drugs, continues to be an important clinical problem with a crude annual incidence of 19 per 100,000 individuals and 22 per cent of the cases requiring hospitalisation."

As a partner in the project, FRAME gets access to a €100,000 funding pot per annum over four years to support training and research into the causes of DILI.

COST said the network of scientific organisations taking part will promote and coordinate a highly translational and innovative research programme in Europe and beyond, with the ultimate goal to pre-empt and prevent DILI, develop innovative therapeutic approaches that could improve clinical outcomes and enhance public awareness, while developing a forum for knowledge exchange and training of young European researchers.

The objectives of the collaboration include to assess signals of hepatotoxicity, risk factors and biomarkers, data sharing, novel diagnostic tools and promotion of funded research activities. The proposal also includes the development of strategies to promote communication and interchange of knowledge and expertise among the different stakeholders.

Dr Andy Bennett, director of the FRAME Alternatives Laboratory, said: "There is a clear need for a deeper understanding of idiosyncratic drug-induced liver injury.

"It is a huge challenge because issues leading up to the disorder span the lifecycle of a drug from pre-clinical development to clinical trials, marketing and usage, yet the reasons for its occurrence are unknown.

"It is a privilege for FRAME to be part of this ground-breaking initiative which promotes the sharing of knowledge across multi-disciplinary scientific research, across 16 countries."

Other objectives of the Pro Euro DILI Network include:

- Harmonising efforts for in-depth DILI phenotyping and bio-sample repository and coordinating pre-funded database/repository studies to aggregate a large number of DILI cases in a standardised manner
- To establish a strategy for development, validation and performance of DILI novel biomarkers and explore multifactorial DILI risk modifiers in clinical data sets using novel approaches for future precision medicine
- Facilitating clinically impactful knowledge discovery by introducing biological variations and the complexity, such as multi-cellular/multi-organ systems, into toxicological experiments to assess hepatotoxicity to guide future drug safety testing
- To define criteria and establish endpoints to measure efficacy on novel interventions in DILI

To draft policy recommendations about near-patient testing tools.