

**Research Project Title: EUTOXRISK21. AN INTEGRATED EUROPEAN 'FLAGSHIP' PROGRAM DRIVING MECHANISM-BASED.**

IIS La Fe has decided to publish a call for a job offer, by a competitive procedure, for a **Graduate Certificate Health. Consolidated laboratory technician**, to perform the tasks in the framework of the Project 2015/0465

The objective of EUTOxRisk21 is to drive a paradigm shift in toxicology towards an animal-free, mechanism-based integrated approach to chemical safety assessment. The project will unite all relevant disciplines and stakeholders to establish: i) pragmatic, solid read-across procedures incorporating mechanistic and toxicokinetic knowledge; and ii) ab initio hazard and risk assessment strategies of chemicals with little background information. The project will focus on repeated dose systemic toxicity (liver, kidney, lung and nervous system) as well as developmental/reproduction toxicity. Different human tiered test systems are integrated to balance speed, cost and biological complexity. EUTOxRisk21 extensively integrates the adverse outcome pathway (AOP)-based toxicity testing concept. Therefore, advanced technologies, including high throughput transcriptomics, RNA interference, high throughput microscopy, and LC- and GC-MS metabolomic approaches will provide quantitative and mechanistic underpinning of AOPs and key events (KE). The project combines in silico tools and in vitro assays by computational modelling approaches to provide quantitative data on the activation of KE of AOP. The proof-of-concept for the new mechanism-based testing strategy will make EUTOxRisk21 the flagship in Europe for animal-free chemical safety assessment. Within this project, the participant partner laboratory, is involved in the evaluation of the performance of hepatic cellular systems, as well the improvement made on hepatocytes to understand the phenotypes of hepatic damage to establish connections among the in vitro and the human in vivo data. The cloning and expression of genes relevant in bile acid transport, the measurement of biotransformation activities, and the generation of biochemical data to allow predictive evaluation of the hepatotoxicity. All these activities constitute, as well, the core research activity of the Experimental Hepatology and Transplant Unit / Experimental Hepatology Joint Unit as part of research activities and as such, they are supported by funding of the Unit.

**Research Project ID:** 2015/0465

**Service/Unit/Accredited Group:** : HEPATOLOGIA EXPERIMENTAL

**Candidate requirements:** (*All requirements are necessary to apply*):

Graduate Certificate Health. Consolidated laboratory technician

**Merits to value:** (0-5 points)

Consolidated research laboratory experience in the following fields:

-Cell culture: Management of primary cultures of hepatocytes and other hepatic cell lines (HepG2, HepaRG, etc.) and cell culture tasks associated.

-Molecular Biology: Nucleic acids extractions (DNA, RNA, miRNA) and analysis (quantification of expression levels (mRNA, protein, activity / function). Advanced techniques of gene regulation (ChIP, Reporter assay, etc.). Nucleic acid electrophoresis. Genetic engineering (DNA cloning, digestion and ligation). Mutagenesis. Amplification techniques (Reverse transcription of RNA to cDNA (RT), design of primers for PCR amplification, polymerase chain reaction (PCR) with classic thermal cyclers).

-Biochemical techniques: Total protein extraction and S9 fractions. Assessment of proteins by the Lowry method. Immunological Techniques Western Blot Analysis (Polyacrylamide gel electrophoresis and membrane transfer, incubation with antibodies and development with chemiluminescent (Luminol) or colorimetric (DAB) substrates).

-Handling of prokaryotic and virus organisms: Transformation of competent bacteria by thermal shock. Preparation of competent bacteria. DNA extraction of transformed bacteria. Nuclear extracts protocols. Chromatin Immunoprecipitation Assay (CHIP Assay). Generation and use of non-replicative adenoviral expression vectors. Gene cloning in CMV Linear pAdeno-X expression vector. Transfection of HEK293 cells for adenovirus formation. Concentration and purification of adenovirus through the use of kits. Titration of adenovirus using the Plaque Forming Assay technique.

**Curriculum vitae and Academic Track-Record** (0-2 points)

Academic scores

Years of accredited work experience in relationship with the functions to perform within the project.

Courses and specific formation on the abovementioned issues. Other complementary education and skills for the main purpose of managing research projects and activities.

Participation in competitive public calls and contracts to support research.

Any outcome derived of the applicant's involvement in research activities (scientific papers and contributions, participation in scientific meetings, and any form of public dissemination).

**Other Merits: (Complementary Training) (0-1 point)**

- Lab management skills (orders, safety rules, etc.)
- Languages (English level to work in a scientific environment)
- Use of informatics tools (Word, Excel, Power Point, Photo manipulation)

**Training/Roles to develop:**

- Support to liver-linked research projects in the field of DILI, including:
- Cultures of human hepatocytes and other hepatic-linked cell lines.
  - DNA cloning and directed mutagenesis.
  - Measurement of expression levels (mRNA, miRNAs, DNA, protein, activity / function).
  - Development of viral vectors of gene expression.

**Contract/Fellowship characteristics:**

- Full time 40 hours
- Amount: 1.551,85 gross/month
- Length: : 6 months renewable.
- Exclusive devotion.

**Deadline for application submission: 3/11/2018**

**Required documents On-Line [www.iislafe.es](http://www.iislafe.es)**

- Updated Curriculum Vitae.
- Track-Record with academic grade media.
- Copy of required educational qualifications.
- Supporting documents of the outlined merits.

*\* The documentation submitted for this open competition will be on deposit of IIS La Fe.*