Interreg North-West Europe
Co-funded by the European Union
STEP4NAMs

APPLY

Challenge-based SME support

#03 Development and validation of a multi-organ, multi-species single assay capable of evaluating drug-induced phospholipidosis (DIPL)

OBJECTIVE

The objective of this challenge is to establish a robust, multi-organ and multi-species in vitro assessment platform for Drug-Induced Phospholipidosis (DIPL).
While single-cell-line assays provide useful early screening information, they lack the organ and species specificity required for definitive risk assessment. Therefore, this challenge aims to identify service providers capable of delivering comprehensive cellular models of phospholipidosis, covering:

- Multiple human organ-relevant cell types (liver, lung, heart)
- Cells from toxicologically relevant non-clinical species (rat, dog, minipig and eventually monkey NHP)

The intent is to enable a more translational, mechanistic and comparative evaluation of compound-induced phospholipidosis across species, supporting risk assessment and derisking strategies in drug discovery.

EXPECTED DELIVERABLE

Indicative duration: 6 – 9 months

Providers should propose a validated cellular assay for DIPL, covering the organ and species panel described on the left.

Expected readout include:

- **Max fold change:** Maximal signal amplitude relative to baseline or untreated control.
- **% vs positive control:** R elative potency or efficacy compared to a known phospholipidosis inducer.
- **Cell loss IC_{50}:** Concentration leading to 50% cytotoxicity.
- **Lysosomal trapping IC_{50}:** Concentration required to induce lysosomal accumulation, using imaging or dye-based methods.
- **Phospholipidosis EC_{50}:** Concentration at which 50% of maximal phospholipid accumulation is observed.

LONG-TERM COLLABORATION POTENTIAL

Subject to scientific and strategic alignment

If the platform meets the defined performance and reproducibility criteria for these overarching contexts of use, and depending on phys/chem properties of chemical series in a given project, a sustained collaboration could allow integration of DIPL assessment into early project stages, supporting prospective derisking, reducing late attrition risk, and improving translational toxicology predictions.

CANDIDATE SELECTION

Initial eligibility check by MPR. Final selection by the challenge provider.

Completion of EDUCATE	Core Module
Company status	SME under EU criteria
Maximum number of supported companies	1 – 3
Minimum required TRL	Proof-of-Concept validation
Confidentiality NDA/ CDA required	Yes

Selection by the challenge provider based on fit, relevance, readiness and innovation potential.

Additional selection criteria

Geographic area	SME from across EU are welcome. SMEs from Interreg NEW are prioritized, particularly partner regions

APPLICATION

Application directly via the STEP4NAMs Moodle platform

https://step4nams.moodlecloud.com/

Scan the QR code to learn more about the STEP4NAMs training programme

SUPPORT

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