EU-OPENSCREEN ACADEMIC COMPOUND LIBRARY INITIATIVE – NEW OPPORTUNITIES FOR THE CHEMISTRY COMMUNITY

Ana Martínez,[1] Carmen Gil,[1] Bahne Stechmann,[2] Victoria Mora,[2] Wolfgang Fecke[2]

[1]Centro de Investigaciones Biológicas Margarita Salas (CIB-CSIC), 28040 Madrid, Spain
[2]EU-OPENSCREEN, Robert-Rössle-Str. 10, 13125 Berlin, Germany

The quality of a screening collection is one of the most critical factors of success in drug discovery. Academic compound collections often predominantly consist of compounds that are commercially available, but proprietary compounds synthesized by academic chemists as well as natural products represent a rich, untapped source for novel chemical diversity. In order to make the invaluable chemistry accessible to a broader scientific community and to allow chemists to uncover novel bioactivities of their compounds, EU-OPENSCREEN offers chemists the opportunity to make their compounds available, in a regulated and transparent framework, to a wider community of biologists, who screen these compounds in suitable bioassays. By doing so, chemists can expose their compounds to a broad range of different biological/drug targets to screen for unknown bioactivities of their compounds, which would otherwise not be feasible in individual one-to-one-collaborations. Once a compound has been identified as an active hit compound, a research collaboration between the chemist (who submitted the compound) and the biologist (who developed the bioassay) can be initiated.

The European research infrastructure EU-OPENSCREEN (www.eu-openscreen.eu) (1-3) was founded in April 2018 with the aim to support projects in early drug discovery. Through its 20 academic partner institutes across Europe, it offers complementary expertise and instrumentation for the development of novel chemical research tools for the Life Sciences community. EU-OPENSCREEN partner sites jointly use a unique diversity compound collection containing commercial as well as proprietary compounds submitted by chemists from all over Europe. The primary screening data will be made available to the scientific community through its open-access European Chemical Biology Database.

Literature:
(1) Silvestri, A. et al. Academic collaborative models fostering the translation of physiological in vitro systems from basic research into drug discovery. *Drug Discov Today*, **2021**, *26*, 1369-1381.
(2) Brennecke, P. et al., EU-OPENSCREEN: A novel collaborative approach to facilitate Chemical Biology. *SLAS Discov*, **2019**, *24*, 398-413.
(3) Horvath, D. et al. Design of a general-purpose European compound screening library for EU-OPENSCREEN. *ChemMedChem*, **2014**, *9*, 2309-2326.