Innovative Screening Methodologies to Identify New Compounds for the Treatment of Central Nervous System Disorders

CHICAGO – There is a tremendous need for novel treatments of diseases of the central nervous system (CNS). It is widely appreciated that significant challenges are associated with first understanding the pathophysiology of chronic diseases, and second, designing new treatments. With the rising costs of drug discovery and development, initiation of new screening campaigns and medicinal chemistry programs require solid rationale for each molecular and/or cellular target.

In this special issue of the Journal of Biomolecular Screening, authors from Belgium, China, Germany, Luxembourg, Netherlands, Spain, United Kingdom and United States share their original research to stimulate ideas and play a role in advancing new strategies to discover desperately needed therapies for CNS disorders. Reports include:

- A KNIME-Based Analysis of the Zebrafish Photomotor Response Clusters
- Discovery of Enhancers of the Secretion of Leukemia Inhibitory Factor as the Treatment of Multiple Sclerosis
- Discovery of Novel Inhibitors of the Tautomerase Activity of Macrophage Migration Inhibitory Factor (MIF)
- At-Line Cellular Screening Methodology for Bioactives in Mixtures Targeting the α7-Nicotinic Acetylcholine Receptor
- An Integrated Approach for Screening and Identification of Positive Allosteric Modulators of N-Methyl-D-Aspartate Receptors
- Kinetic Analysis of Membrane Potential Dye Response to NaV1.7 Channel Activation Identifies Antagonists with Pharmacological Selectivity against NaV1.5
- Development of an HTRF Assay for the Detection and Characterization of Inhibitors of Catechol-O-Methyltransferase
- Characterization of Differentiated SH-SY5Y as Neuronal Screening Model Reveals Increased Oxidative Vulnerability
- Characterization of Early Cortical Neural Network Development in Multiwell Microelectrode Array Plates
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SLAS (Society for Laboratory Automation and Screening) is an international community of more than 20,000 individual scientists, engineers, researchers, technologists and others from academic, government and commercial laboratories. The SLAS mission is to be the preeminent global organization providing forums for education and information exchange and to encourage the study of, and improve the practice of life sciences discovery and technology. For more information, visit www.SLAS.org.

SLAS publishes two internationally recognized, MEDLINE-indexed journals, now in their 21st year of publication. Together, the Journal of Laboratory Automation (JALA) and Journal of Biomolecular Screening (JBS) address the full spectrum of issues that are mission-critical to this important audience, enabling scientific research teams to gain scientific insights, increase productivity, elevate data quality, reduce lab process cycle times and enable experimentation that otherwise would be impossible.

Specifically, JALA explores ways in which scientists adapt advancements in technology for scientific exploration and experimentation. In direct relation to this, JBS reports how scientists develop and utilize novel technologies and/or approaches to provide and characterize chemical and biological tools to understand and treat human disease.


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