Special Issue

Phenotypic Screening

Message from the Guest Editors

Phenotypic drug discovery (PDD) relies on methods where the molecular mechanism is not known or assumed and uses empirical lead generation to deliver novel drug candidates. Though target-based approaches have dominated drug discovery in the past, there is recently a resurgence of PDD. This appears to be related to the frequent disconnect between in vitro and in vivo systems, as a result of stirring away from physiologically relevant conditions. PDD may be more costly and slow in early stages, but with better understanding of the risks and challenges it can be a powerful tool leading not only to increased probabilty of success for drug candidates, but also to the identification of novel drug targets that can be used alone or in combination with existing therapeutics.

This special issue aims to cover improvements in library design, screening, assay cascade, and chemoinformatics tools that expedite modern PDD, presenting successful medicinal chemistry efforts in PDD, and further target identification campaigns that originated from PDD. Looking forward to receiving these and other relevant contributions.

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As the premier open access journal dedicated to molecular chemistry, now in its 29th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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