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ProductInformation

LOPAC^{1280}
Library of Pharmacologically Active Compounds
Product Number **LO1280**
Storage Temperature –20 °C

Product Description

LOPAC^{1280} (Library of Pharmacologically Active Compounds) is a collection of high quality, innovative molecules that span a broad range of cell signaling and neuroscience areas. The library is most commonly used to validate new drug discovery assays and characterize orphan receptors. All of the compounds are Sigma-RBI compounds that are held to the same quality standards that any Sigma-RBI product would be. Additionally, the catalog number for each compound is provided with the set to facilitate resupply when necessary.

The complexion of the LOPAC^{1280} library reflects the most commonly screened targets in the drug discovery community. For example, G protein-coupled receptors (GPCRs) are the target for 60 % of the therapeutics currently on the market. The sequencing of the human genome has identified 1000-2000 putative GPCRs. Thus, GPCRs represent the most aggressively pursued targets and molecules that interact with GPCRs make up over 50 % of the compounds in LOPAC^{1280}. The fact that ligands are known for only 200 GPCRs underscores the importance of orphan-receptor characterization projects.

Screening with proven pharmacological tools can provide new information based on relevant and diverse structures. LOPAC^{1280} contains marketed drugs, failed development candidates and “gold standards” that have well-characterized activities. These compounds are the result of lead optimization efforts and thus, possess a great deal of value, having been rationally designed by structure-activity relationship (SAR) studies. Not only are successfully marketed drugs like fluoxetine and loratadine valuable for their activities, they offer a standard against which next-generation drugs can be measured in an effort to understand why candidates fail and, more importantly, why some candidates succeed.

Reagents

LOPAC^{1280} contains 1,280 pharmacologically active Sigma-RBI compounds arrayed in 96-well format. Each compound is supplied as 250 µl at 10 mM in DMSO (dimethylsulfoxide). The first and last columns of each rack are left empty to facilitate the use of controls. The resulting format is 16 racks containing 80 compounds per rack. Please refer to the rack map provided on the CD-ROM included with the set.

Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for the set or individual components for handling recommendations before working with this material.

Preparation Instructions

Compound solubility in DMSO is not uniform. Be careful to resuspend compounds that may settle prior to transfer.

Storage/Stability

LOPAC^{1280} should be stored at –20 °C protected from moisture and light.[1] Avoid repeated freeze/thaw cycles by producing working replicates.

Product Profile

Detailed information including compound names, well locations, structures and pharmacological activities can be found on the CD-ROM included with the set.

References

1. Darvas, F. et al., ‘Estimation of stability and shelf life for compounds, libraries and repositories in combination with systematic discovery of new rearrangement pathways.’ In: Handbook of Combinatorial Chemistry (Eds. Nicolaou, K., Hanko, R. and Hartwig, W.) pp. 806-828, Wiley-VCH.

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