## High Throughput Screening Platform from Natural Compounds for Drug Discovery in Thailand

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## **Abstract**

Excellent Center for Drug Discovery (ECDD) was recently established in 2016 through collaboration between Faculties of Science and Medicine Ramathibodi Hospital, Mahidol University and Thailand Center of Excellence for Life Sciences (TCELS). ECDD is setup as one of the most integrated and state-of-the-art platform for High-Throughput, High-Content Screening in Thailand and used to investigate potential active pharmaceutical ingredients from chemical and natural compounds for the treatment and prevention of important diseases associated with aging and infection and anti-cancers. There are two major objectives including (1) to discover drug candidates through screening of approved drugs, natural compounds, and synthetic molecules using induced pluripotent stem cells (iPSCs) or other cell-based models of human diseases; (2) to be a service center for drug efficacy and toxicity screening. In addition, ECDD has prepared personnel and systems for compound management and multidivisions for early drug development. ECDD opens for collaborative research and development with investigators from all sectors to lead and ensure the successful development of novel therapeutic innovations with high commercial promise to enhance the country's competitiveness and place Thailand as a regional center for drug discovery.

Keyword academic center, drug discovery, high throughput screening, natural compound

## Acknowledgements

Faculties of Science and Medicine Ramathibodi Hospital, Mahidol University and Thailand Center of Excellence for Life Sciences (TCELS).

## Reference

Arvidsson PI, Sandberg K, Forsberg-Nilsson K. Open for collaboration: an academic platform for drug discovery and development at SciLifeLab. Drug Discov Today. 2016; 21(10):1690-1698.

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