Cell-type metabolic analysis: A new tool for understanding metabolic heterogeneity

Arieh Moussaieff
Hebrew University, Israel

Metabolic profiling provides a highly sensitive phenotype. Until recently, such analyses were performed on whole organisms or tissues or on cell cultures, providing scarce cell-specific information. This work investigates several aspects of cell-type metabolism. A metabolic map of a tissue was drawn using the Arabidopsis root as a model for cell-type metabolic analysis and a new protocol was developed, providing cell-specific metabolic profiles within a tissue. This protocol is now pursued for the cell-type analyses of developmental and cancerous processes. New insights into metabolic zonation and metabolic regulation of cell fate will be discussed.

Biography
Arieh Moussaieff is a Senior Lecturer at the School of Pharmacy in the Hebrew University of Jerusalem. After concluding his PhD in the Hebrew University with Raphael Mechoulam, he took a Post-doctoral position in the Weizmann Institute, studying cell-type metabolomics, and then a second position in INSERM, France, studying stem cell metabolism, a work he concluded in the Hebrew University with Yaakov Nahmias before taking a faculty position. His work has been published in the most reputed journals in the fields of metabolism, analytical chemistry and pharmacology, as well as in high impact interdisciplinary journals. His current main field of interest is the link between metabolism and cell identity.

ariehm@ekmd.huji.ac.il

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