



MAPPING METABOLIC DRIVERS OF DISEASE USING CHEMOPROTEOMIC AND METABOLOMIC PLATFORMS

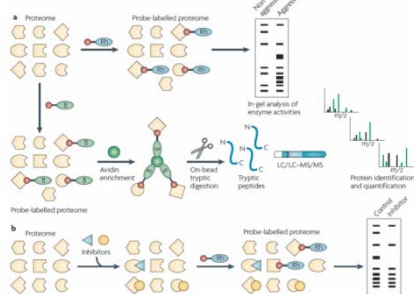
GUEST LECTURE by

Prof. Daniel K. Nomura, PhD

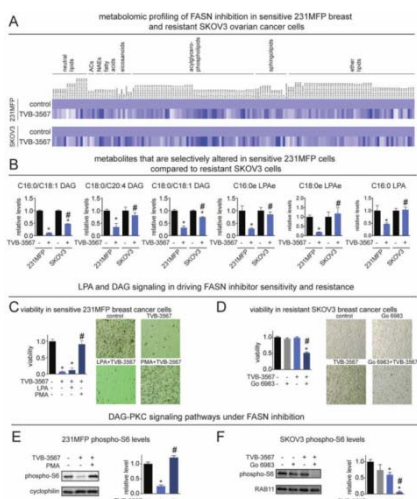
Departments of Chemistry & Nutritional Sciences & Toxicology, University of California, Berkeley
Department of Pharmaceutical Chemistry, University of California, San Francisco, USA

Thursday, 24.03.2016
15:00

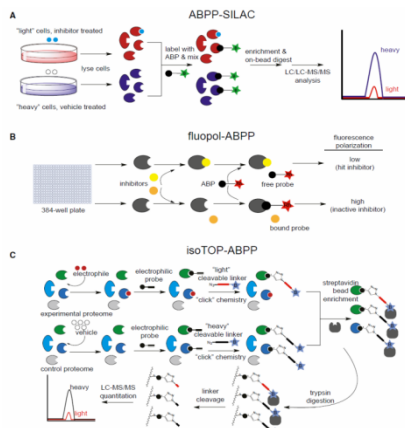
Lecture Hall, Department of Pathology, MUG
(Auenbruggerplatz 15, ground floor)



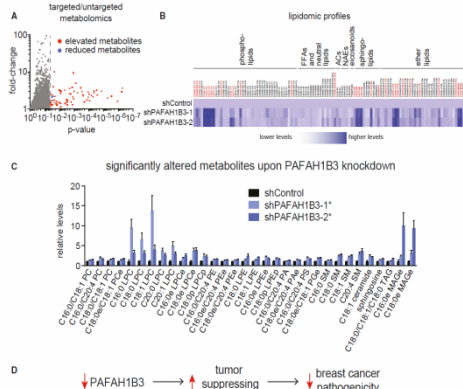
Activity-based protein profiling. Komura et al. (2010) Nat Rev Cancer 10:630-8



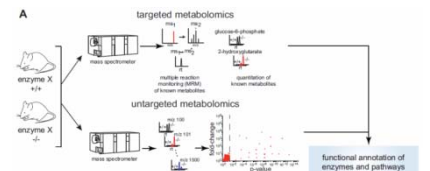
Metabolic profiling of FASN inhibition reveals DAG metabolism and signaling as important drivers of FASN inhibitor sensitivity. Benjamin et al. (2015) ACS Chem Biol 10:1616-23



Competitive ABPP platforms. Medina-Cleghorn & Nomura (2014) Chem Biol 21:1171-84

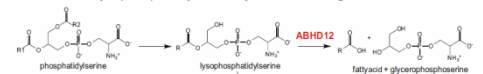


Metabolic profiling reveals PAFAH1B3 as a critical driver of breast cancer pathogenicity. Mulvihill et al. (2014) Chem Biol 21:831-40



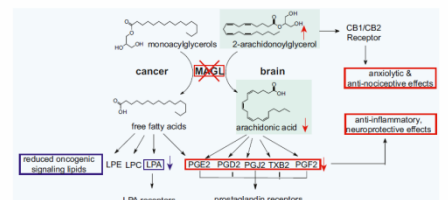
Targeted and untargeted metabolomics. Mulvihill & Nomura (2014) Am J Physiol Endocrinol Metab 307:E237-44

A ABHD12 is a lysophosphatidylserine hydrolase that regulates neuroinflammation

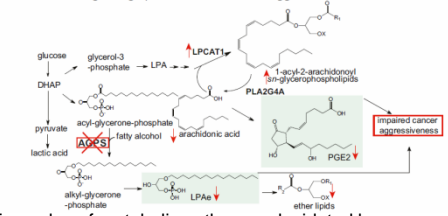


lysophosphatidylserine → toll-like receptor 2 activation, microglial activation (neuroinflammation) → behavioral dysfunction (PHARC)

B MAGL controls a fatty acid signaling network to reduce pain, inflammation, and oncogenic signaling lipids



C AGPS regulation of ether lipids controls oncogenic signaling lipids to affect cancer aggressiveness



Examples of metabolic pathways identified by metabolic profiling. Medina-Cleghorn & Nomura (2014) Chem Biol 21:1171-84