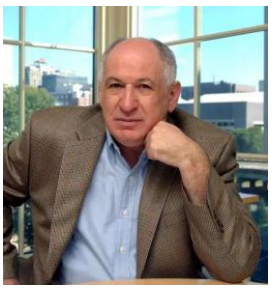
CCR – Impromptu Seminar

Monday, March 18th 2024, 3pm

Joseph Schlessinger

Yale School of Medicine

Cancer Biology Institute



Cell Signaling By Receptor Tyrosine Kinases: From Basic Principles To Cancer Therapies

Schlessinger has been a leader in elucidating the structure and function of receptor tyrosine kinases (RTKs), a discovery which provided the foundation for profound advances in targeted cancer therapy. He demonstrated that RTKs are stimulated by ligand induced receptor dimerisation and elucidated how signals are relayed intracellularly by discovering that protein-protein interactions are essential for assembly and regulation of signaling molecules through SH2 and SH3 domains. Using structural analyses, he also elucidated the mechanism of RTK activation at atomic resolution, revealing how ligand binding stimulates KIT, EGFR, FGFR, Klotho and ALK dimerisation normally or by oncogenic activation. Schlessinger showed that human cancers can be driven by amplification or activating mutations of the RTKs like EGFR. His pioneering studies provided the conceptual foundation for developping a new class of targeted cancer therapies which include Sunitinib, Zelboraf and Turalio developed by his teams in Sugen and Plexxikon that have meanwhile become front line cancer therapies being also key components for rational combination with immunotherapies. His work represents the pinnacle of biomedical science in which groundbreaking basic discoveries are translated into important therapies.

Venue: Lecture Hall B1, Borschkegasse 4a
Time: Monday, March 18th 2024, 3pm
Host: Maria Sibilia

CENTER FOR CANCER RESEARCH
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