SEMINAR 2025

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Exploring novel chemical strategies to target cancer and cancer-associated disorders

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Host: Aitziber L. Cortajarena

Thursday, 13th February
3.00 p.m.

CIDETEC - Seminar Room

The main goal of my lab is the exploration of novel chemical strategies to improve the efficacy and safety of cancer treatment, ranging from the design unconventional prodrug approaches to small molecule-based targeted therapies. Inspired by the wide-ranging notion of bioorthogonality, our lab is known for the development a broad range of metabolically-stable bioorthogonally-activated prodrugs and the discovery of abiotic transitional metal-mediated catalytic reactions capable of releasing active drugs in vitro, ex vivo and in vivo. In this talk, I will present our last advances on the design and application of bioorthogonal prodrugs and catalysts to elicit spatially controlled pharmacological activity for different applications. In addition, my lab has significant interest in kinase inhibitors and drug development. I will briefly present the discovery, preclinical and clinical development of the first small molecule inhibitor, eCF506 (now NXP900), that fully inhibits the SRC kinase with unprecedented potency and selectivity. I will also show that the inhibition mode of NXP900 translates into increased antitumor efficacy and tolerability in mouse models of breast cancer, bone metastasis and other malignancies, and will finish the talk with an update on the phase 1 clinical trial currently ongoing in USA and UK.