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CIC biomaGUNE
CENTER FOR COOPERATIVE RESEARCH IN BIOMATERIALS

seminar

Thursday, 21st November, 12.00 pm, Seminar Room

Host: Dr. Sergio Moya

Polymeric amphiphiles: Targeting pediatric tumors and beyond

Alejandro Sosnik
Laboratory of Pharmaceutical Nanomaterials Science, Department of Materials Science and Engineering, Technion-Israel Institute of Technology, Haifa, Israel

Nanotechnology made sound contributions to the treatment of disease in general and cancer in particular due to the ability to target drug-loaded nanomaterials by the enhanced permeation and retention effect (passive targeting). Furthermore, the design of nanocarriers surface-modified with ligands recognized by receptors overexpressed in specific cell types (e.g., cancer cells) is an extensively investigated (though still unrealized in the clinical practice) strategy for active targeting and reduce off-target accumulation and toxicity; e.g., sugared nanocarriers improved the diagnosis and chemotherapy of solid tumors overexpressing glucose transporters (e.g., breast cancer). In my presentation, I will overview the different strategies pursued in my laboratory to design novel amphiphilic nanomaterials with improved features to overcome different biological barriers, to actively target tumors and tune the phenotype of different cell populations. Finally, I will introduce a novel kind of sono-responsive hybrid polymer/ceramic hybrid nanoparticle.