

4th International Conference on **Nanotek & Expo**

December 01-03, 2014 DoubleTree by Hilton Hotel San Francisco Airport, USA



Ljubimova J Y

Cedars-Sinai Medical Center, USA

How to select therapeutic criteria for nanomedicines to treat cancer?

Traditional chemotherapy is being gradually complemented or replaced with targeted molecular therapeutics since the discovery of molecular heterogeneity of tumors with similar histology. Among modern drug formulations, nanodrugs are highly promising vehicles for multi-targeting and can provide molecular combination therapy and thus, personalized therapies designed to treat individual tumors with specific marker expression profiles. Nanomedicines are able to block cancer-specific proteins much more effectively; nano drug targetability may decrease general toxicity in comparison with classical chemotherapeutic drugs; novel horizons are opened in imaging and diagnostics by using nano imaging agents. However, a variety of problems concerning the nano drug safety in terms of toxicity, reproducibility of production, compositions, size, and polydispersity are slowing down their application for the IND submission and FDA approval.

This talk will present the overview with examples of current nanodrugs' pharmaceutical problems and possible solutions for the design of novel nano therapeutics and nano imaging agents for experimental validation and future clinical applications.

Biography

Julia Ljubimova is Professor of Neurosurgery and Biomedical Sciences, Director of Nanomedicine Research Center at the Department of Neurosurgery at Cedars-Sinai Medical Center, and Director of Translational Cancer Program, Samuel Oschin Comprehensive Cancer Center at Cedars-Sinai Medical Center. She has been working in clinical and basic cancer research for her entire career. The major interest is the differential cancer gene expression as a tool for finding novel/early markers of cancer development, and for working out new nanomedicine drugs against these tumor targets for treatment and/or imaging. One of the novel markers, the structural tumor vessel wall protein laminin-411, is currently in a clinical trial as a prognostic and diagnostic marker for human glial tumor progression. These discoveries led to the development of new technologies for drug delivery and engineering of a new class of anti-cancer nanomedicine drugs and imaging agents. She pioneered new nano immuno drug development to treat brain and breast cancers. Currently, her research is supported by three NIH/NCI, private and industry grants. She is the author of over 70 peer-reviewed publications, reviews and book chapters as well as an inventor on 12 patents and patent applications.

Julia.Ljubimova@cshs.org