



## *“Polymeric Micelle-based Combination Therapy for Treating Advanced Prostate Cancer”*

**Ram I. Mahato, Ph.D**

*Professor, Department of Pharmaceutical Sciences  
University of Tennessee Health Science Center, Tennessee*

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### **ABSTRACT:**

Since most prostate tumors relapse within two years to hormone refractory prostate cancer, there is an urgent need for a combination therapy which can treat both androgen dependent and independent prostate cancers. Most potent anticancer drugs are hydrophobic and cannot be administered without a solubilizing agent, which causes systemic toxicity. Polymeric micelles self-assemble with a hydrophobic core capable of solubilizing hydrophobic drugs and the stealth properties of their hydrophilic corona prevent recognition by the reticuloendothelial systems. In this presentation, I will present our recent data on the synthesis and use of biodegradable copolymers for micellar formulations. These micelles can significantly enhance the aqueous solubility and facilitate site-specific delivery of multiple drugs including antiandrogens and proapoptotic anticancer. I will also discuss the importance of combination therapy and design elements for overcoming chemo- and androgen resistance to advanced prostate cancer.

### **BIOGRAPHY:**

*Dr. Ram I. Mahato* is a Professor at the Department of Pharmaceutical Sciences, University of Tennessee Health Science Center. He has served as a Research Assistant Professor at the University of Utah, Senior Scientist at Valentis, Inc., and as a postdoctoral fellow at the University of Southern California, Washington University in St Louis, and Kyoto University, Japan. He received his PhD in Drug Delivery from the University of Strathclyde, Britain and BS in Pharmaceutics from China Pharmaceutical University, Nanjing. He has published 85 papers and book chapters and ~80 abstracts. Dr. Mahato holds two U.S. patents and has edited four books and written a textbook on Pharmaceutical Dosage Forms and Drug Delivery. He is a Feature Editor of the Pharmaceutical Research, Editorial Board Member of the Journal of Drug Targeting, Expert Opinions on Drug Delivery, and Transplantation & Risk Management. He is a Scientific Member of the Nonviral Gene Transfer Vectors Committee of the American Society of Gene Therapy (2006-2009) and a Permanent Member of the BTSS (Bioengineering, Technology and Surgical Sciences) Study section of the NIH (2009-2013) and frequent grant reviewer of the Department of Defense and Komen Foundation.

*For more information, please contact Apryll Chin at X74985 or [apryll@ea.ucla.edu](mailto:apryll@ea.ucla.edu)*