



Non-Confidential Technology Disclosure

- Title:** Nanotransporters for Efficient Delivery of Nucleic Acids and Other Pharmaceutical Agents
- Investigator:** Tariq M. Rana, Ph.D, Department of Biochemistry and Molecular Pharmacology, University of Massachusetts Medical School.
- Description:** Dr. Rana has developed novel nanotransporters to be used in the delivery of nucleic acids, including siRNAs, proteins, and small molecule therapeutic agents to human cells. The nanotransporters are comprised of a central core, which may be either a nanoparticle or a nanotube, and at least one functional surface group. Studies have shown that the nanotransporters efficiently deliver siRNAs to liver cells resulting in the silencing of the targeted mRNA without affecting cell viability.
- Applications:** This technology can be used for:
- The delivery of DNA into target cells or tissues for the expression of a gene of interest.
 - The delivery of RNAi agents (siRNAs, shRNAs, or miRNAs) into target cells and tissue types for the silencing of a gene of interest.
 - The delivery of small molecule therapeutic agents into target cells or tissues.
- Advantages:** This novel, non-toxic nanoparticle delivery technology allows for a more efficient and specific delivery of nucleic acids, small molecules and proteins to cells. Modification of functional groups on the nanotransporter can be exploited to direct cell and tissue specificity and increase delivery efficiency.
- Publication:** *ACS ChemBiol.*2007. 2:237-241.
- Patent Status:** Patent Pending
- Licensing Status:** Available to license
- Dockets:** UMMC 06-38
- Contact:** Lisa L. Decker, Ph.D.
Associate Director
Phone: (508)-856-5055, Fax: (508)-856-1482
Lisa.Decker@umassmed.edu