

Raghuraman Kannan

Dr. Raghuraman Kannan combines an entrepreneurial spirit with expertise in chemistry, molecular biology and material science to produce promising cancer treatments.

Traditional oncology therapeutics kill cancer cells, but they also kill healthy cells. However, Kannan has developed a library of drug delivery vehicles, based on nanoparticles, that target tumors without damaging healthy tissue. Using this innovation, he is working to develop treatments for ovarian, breast, pancreatic and liver cancers.

Kannan also leverages nanotechnology tools to better understand drug resistance. Utilizing a biological process called RNA interference (RNAi), his discoveries have paved the way for the creation of new therapeutics to reverse drug resistance. Additionally, his laboratory developed a diagnostic suite, called NSCLC-Suite, to help oncologists devise an effective treatment plan for cancer patients.

Kannan has written more than 55 papers and holds seven patents. His research has led to four startup companies to commercialize nanotechnology that he helped develop. His ultimate goal is to witness doctors using his work to help patients. “Seeing my products getting into clinics — that will be truly satisfying,” he says.

Dr. Raghuraman Kannan is an associate professor and the Michael J. and Sharon R. Bukstein Chair in Cancer Research. He has appointments in radiology in the School of Medicine and bioengineering in the College of Engineering.

