Dr. Kalpna Gupta, PhD.

Dr. Kalpna Gupta, PhD., is a Professor of Medicine in the Hematology, Oncology and Transplantation Division at the University of Minnesota. She received her Ph.D. degree in Biochemistry in 1984 from the All India Institute of Medical Sciences, New Delhi, India and subsequently did her Post-doctoral training in the Hematology, Oncology and Transplantation Division at the University of Minnesota.

Dr. Gupta’s laboratory aims to better understand chronic, debilitating pain and develop methods to improve its treatment. A major focus area is the identification of new molecular targets to treat pain in sickle cell disease and cancer. Dr. Gupta and her team are investigating whether these targets can be blocked using medications that are currently available or in advanced stages of development. They have received NIH-funding for and are in the early stages of an in-patient proof of concept study using vaporized cannabis for pain relief in sickle cell disease. Their studies in mice suggest that cannabinoids may be effective in providing relief for different kinds of pain. In addition to improving analgesia, Dr. Gupta is also trying to identify the adverse effects of opioids and cannabinoids, if any, on the biology of sickle cell disease and cancer and to develop technology to objectively quantify pain for more personalized pain treatment. Finally, she seeks to train young scientists in sickle cell disease research and advance public awareness of this condition.

Dr. Gupta’s publications include:


