Put an immuno-oncologist, a molecular immunologist and an X-ray crystallographer in one room and you may get a new approach to cancer treatment.

More than 90 percent of cancer deaths are caused not by the primary tumor but rather by the cancer’s spread, known as metastasis. “Surgery, chemotherapy and radiation can often control primary cancer growth, but successful control of metastatic cancer remains rare,” says immuno-oncologist Xingxing Zang, Ph.D., assistant professor of microbiology & immunology. Einstein researchers are working on a new approach to treating cancer metastases: activating the immune system.

“The basis of immunotherapy for cancer is that the immune system’s T cells can recognize foreign antigens on tumors and reject the tumors,” says molecular immunologist Stanley G. Nathenson, M.D., Distinguished Professor in the departments of microbiology & immunology and of cell biology and the Samuel H. Golding Chair in Microbiology. Existing cancer therapies such as interferon and interleukin 2 help encourage the immune system to attack tumors, but the heightened immune response is