

Enhanced Anti-Tumor Immune State

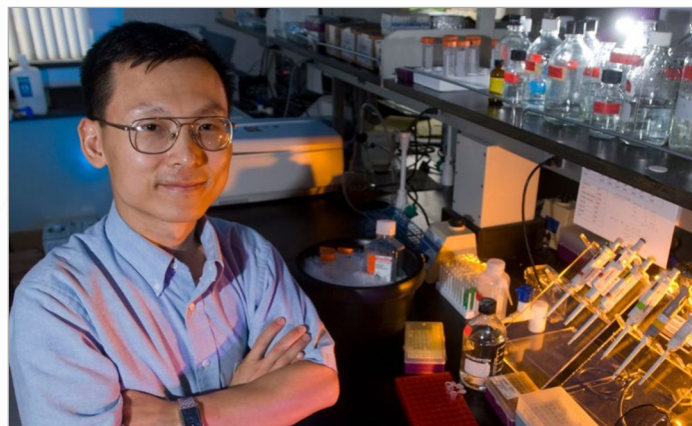
VTIP 19-020: “Programmed Innate Leukocytes as Potent Therapeutic Agents to Treat Solid Cancer”

THE CHALLENGE

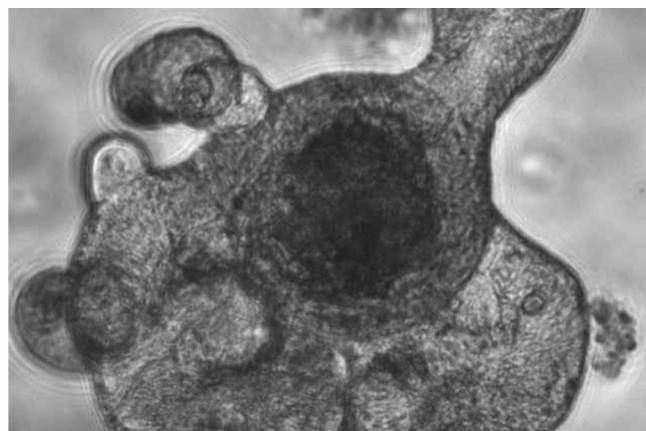
Similar to vaccines, traditional immunotherapies target specific epitopes of cancerous cells. While several immunotherapies offer several benefits over other alternatives, immunotherapies are not very effective because of several reasons. Given that microbes/cells have similar epitopes and that tumors mutate, therapy may not work in all cases and tumors may not have the epitope that the immunotherapy was designed to target. Furthermore, therapies are often too specific, and cannot target multiple types of cells.

OUR SOLUTION

The current invention describes a novel strategy to reprogram neutrophils or monocytes with selective compound in vitro, into an enhanced anti-tumor immune state that is conducive for the effective treatment of colon cancer and/or solid human tumors. The reprogrammed neutrophils transfer enhanced tumor immune surveillance and reduce tumor burden in vivo. Unlike other immunotherapies, this is an epitope independent immunotherapy process that targets cancer cells.



Lead inventor, Virginia Tech's Liwu Li, pictured in the lab.



Microscope image of cells involved in immunotherapy processes.



CONTACT:

Grant Brewer
grantb76@vt.edu
540-231-6648