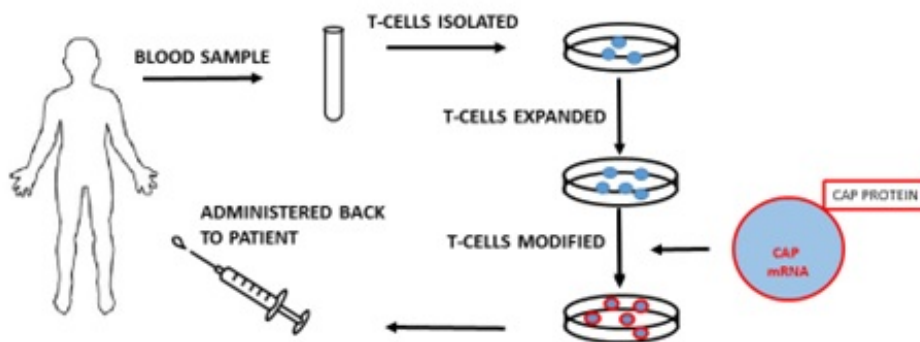


## Low-Cost, Disposable Device for Manufacture Car T-Cells for Cancer Therapy (RFT-538)

### Invention Summary

Scientists at NDSU have developed a new device for a scalable, biomanufacturing platform for the production of CAR-modified T-cells while eliminating on-target/off-tumor toxicity and decreasing the current production cost by 500 times (per treatment). The technology relates to a device to produce modified T-cells comprising a first chamber for proliferating a population of T-cells and a second chamber for modifying the T-cells to express a desired T-cell receptor antigen. The modified CAR T-cells can be used to treat cancer.



### Benefits

- Expands cells by localizing them with electrical traps
- Transfects the cells with desired mRNA using channels, aligning the cells with an electrical field and inserting the mRNA using electrical pulses that produce temporary pores in the cells
- Disposable device can be used at the location where the T-cells are drawn, thus avoiding transportation costs and time for production
- Significantly reduces costs per treatment for cancer patients
- Can be automated to allow simultaneous preparation of T-cells for multiple patients

### Patents

This technology is patent pending with fully preserved PCT patent rights and is available for licensing/partnering opportunities.

## Contact

Henry Nowak, Technology Manager  
[hnowak@ndsurf.org](mailto:hnowak@ndsurf.org)  
(701)231-8173

## NDSURF Tech Key

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**NDSU RESEARCH FOUNDATION**

1735 NDSU Research Park Drive | Dept. 4400 | PO Box 6050 | Fargo, ND 58108-6050  
701.231.6681 | Fax 701.231.6661 | [www.ndsurearchfoundation.org](http://www.ndsurearchfoundation.org)

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