

Executive Summary: Immunaeon

The Problem

The immune system is comprised of cells that are able to fight against viral and bacterial infection. Novel cancer treatment strategies known as immunotherapy use the immune system to recognize and fight against cancer cells. The problem is that as we age, our immune systems break down and are no longer able to function in immunotherapy. Furthermore, cancer is well characterized in its ability to turn off the immune system, making immunotherapy efficacious in only around 30% of patients. 1 in 3 Americans are diagnosed with cancer in their lifetimes, and immunotherapy can be used to fight both solid and hematological cancers. The challenge is that *most patients do not have access to healthy immune cells for use in creating effective immunotherapy.*

Immunaeon

We are an immune cell storage agency in Buffalo, NY, working with clients to isolate *healthy* immune cells, along with quantitative and qualitative analysis. Cells are cryopreserved and evaluated for viability over time (once a year after storage), allowing our clients use of those cells at any point, should the need arise. Our proprietary technique for the separation of immune cells from total blood is inexpensive and fast, using salt buffers to lyse red blood cells and centrifugation to separate the immune cells from other blood components. Because our services center on cryopreservation, we can easily scale up our business model as the only limitation is space for storage in liquid nitrogen.

Our Product and Services

Our services include the isolation, analysis, and cryopreservation of immune cells from peripheral blood including: CD4 and CD8 T cells, B cells, Monocytes, and Natural Killer cells. These include both master regulators of the immune response as well as the foot soldiers of the immune system, capable of recognizing and killing cancerous cells in the body. We also use a proprietary analysis platform that include cancer markers on the immune cells, which our clients cannot access at any hospital or physician's office. In providing this information to our clients, they can potentially catch cancer well in advance of a devastating stage 4 diagnosis. This is a similar business model to that of umbilical cord blood storage; however, cord blood cells cannot be used in the same applications as healthy blood-derived immune cells. We charge an initial fee of \$2,000, with a monthly storage fee of \$10. With COGS around \$1,000, the unit economics are strong and only increase over time as the cost of storage decreases with an increase in number of samples stored due to the small amount of space taken by individual clients.

The Market

The immunotherapy market is projected to be worth \$150 Billion by 2025. Through our primary market research, we have been able to target customer segments that express the greatest need for the storage of healthy immune cells; specifically, cancer patients in remission whose relapse can be treated with immunotherapy.

Our Market Advantage

There is only one company in the nation that provides a similar service (Cell Vault); however, they provide no analysis and take only a fraction of the cells needed for use in immunotherapy (1/12th of the cells we isolate). Because we provide a level of analysis not available in the current market, we are able to provide a superior value proposition at a similar purchase point. As we are actively working with clinical partners in demonstrating the increased efficacy of immunotherapy using cryopreserved cells, the transition from innovators to early adopters who have a family history of cancer will be fast, allowing us to scale quickly at a national level, using blood draw facilities such as Quest and LabCorps to acquire samples from anywhere in the nation for a safe and easy overnight shipment to our facilities in Buffalo, NY.