



## High Throughput, High Recovery with Akadeum's Microbubble Leukopak Human T Cell Isolation Kit

*Akadeum's Microbubble Leukopak Human T Cell Isolation Kit Recovers More Cells in Less Time Than Magnetics-Based Products*

Isolation of cells from leukopaks is critical for efficiently and effectively acquiring the large numbers of cells needed for many cell therapy workflows. Leukopaks provide a concentrated source of white blood cells, with many fewer RBCs than whole blood. Unfortunately, this comes with significant donor-to-donor and supplier-to-supplier variability in the overall leukopak composition. In addition, current industry standard isolation techniques are time consuming and lose many of the precious target cells in the process.

Akadeum's Microbubble Leukopak Human T Cell Isolation Kit consistently produces high purity T cells regardless of the variability in starting composition. Early adopters across a range of disciplines have obtained post-isolation purities averaging 96%. When compared with their prior magnetics-based isolation systems, the Microbubble platform recovers samples with a higher frequency of leukocytes. In addition, Akadeum's Microbubble isolation protocol is fast, taking less than half the time of leading magnetics based kits while yielding many more T cells. This reduction in time and waste allows for much higher throughput and improved downstream productivity.

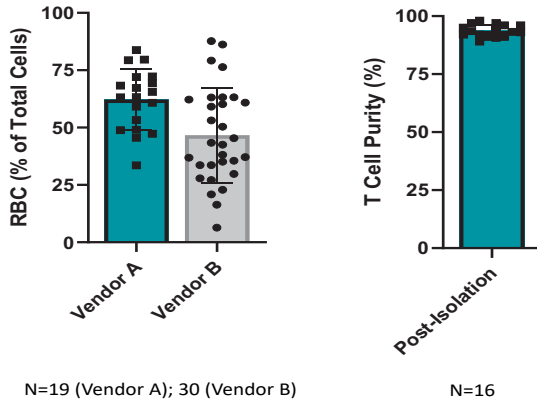
### HIGHLIGHTS

- Akadeum's kit consistently provides high purity T cells despite the high variability in starting leukopak composition.
- Results show recovery of more T cells in less than half the time compared to magnetics.

*"I haven't been this excited about cell isolation in a long time."*

*"Imagine the quality of cells if we can get to isolated cells 1-2 hours after acquiring them... and with less washes."*

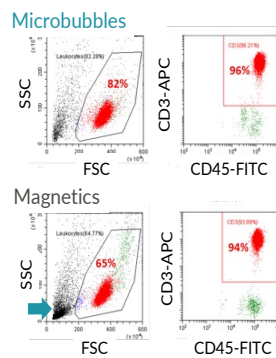
*-Immunology Specialist  
Biospecimen Provider*



**Figure 1: High variability of input material does not affect the effectiveness of T cell isolation.**

The frequency of RBC content in leukopaks varies greatly from donor to donor and from leukopak supplier to supplier (left). This is representative of the overall leukopak composition variability. Despite this unpredictability in leukopak composition, Akadeum's Microbubble Leukopak Human T Cell Isolation Kit consistently provides high purity T cells.

Early Adopter	Post-Isolation Purity
Biospecimen Provider	98%
Blood Bank	96%
Contract Research Org.	92%
CGT Biopharmaceutical Developer	97%
Medical Research Institute	98%



**Figure 2: Early adopters achieve purity >92%.**

Robust and reproducible results have been confirmed by external users across a broad set of industries. Akadeum's kit routinely gives post-isolation purity greater than 92%. The example on the right depicts data demonstrating head-to-head comparison of Microbubble and magnetics-based T cell isolation. This shows that while the frequency of CD3+CD45+ cells within the leukocyte population is comparable between the two, this population is a much smaller portion of the overall output with magnetic separation, given the increased debris and RBCs in the Magnetics sample (teal arrow).

Microbubbles

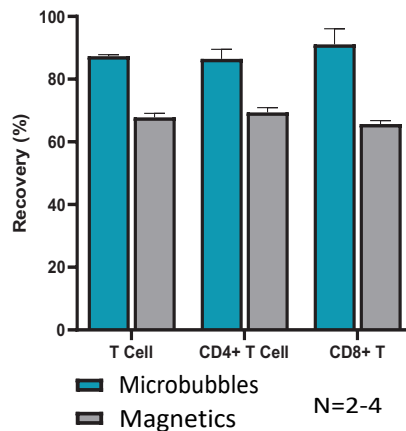


65 min.

Magnetics



150 min.



**Figure 3: Akadeum T cell isolation from Leukopak yields consistently more T cells in a shorter time than magnetics.**

T cells were isolated directly from leukopak material using Akadeum's Microbubble Leukopak Human T Cell Isolation Kit or a leading magnetics-based isolation kit. Akadeum's kit isolates highly pure T cells in less than half the time compared to magnetics. Post isolation recovery (percent of starting T cell numbers) shows Akadeum's kit consistently yields more T cells, leading to less loss of starting product than magnetics-based competitors.

Overall, Akadeum's Microbubble cell isolation technology consistently preserves precious starting material and recovers pure T cell samples in less than half the time of magnetics-based isolation, reducing costs and improving throughput.

## About Akadeum Life Sciences

Akadeum has developed the next generation in cell separation using buoyancy-activated cell sorting (BACS™) microbubbles. These microbubbles have revolutionized cell separation, allowing scientists to improve workflows and outcomes in a fraction of the time of previous workflows. Experience the microbubble difference for yourself! Book a meeting with our expert scientific staff to discuss your application, or shop our Microbubble Leukopak Human T Cell Isolation and other Microbubble Products online at [www.akadeum.com](http://www.akadeum.com).