



## Cloning Mouse B Cells for Antibody Production Using Akadeum's Novel High-Throughput Mouse B Cell Isolation Microbubbles

*In a Head-to-Head Comparison Akadeum's Mouse B Cell Isolation Microbubbles Generated 32% More Positive Antigen-Specific Antibodies Compared to Magnetic-Based Procedures*

Abbratech compared Akadeum's novel Mouse B Cell Isolation Kit with buoyancy-activated cell sorting (BACS™) microbubbles to a negative selection magnetics-based kit for isolation of B cells from fresh splenocytes to determine which process would be incorporated into their mouse B cell cloning workflow. After enrichment, samples were cultured under various conditions and the production of antigen-specific antibodies was assessed via ELISA.

Akadeum's Mouse B Cell Isolation Kit has a higher throughput than the magnetics-based kit, allowing Abbratech to triple the number of samples that could be processed at a given time. Most importantly for Abbratech's purposes, Akadeum's microbubbles were gentler compared to the magnetics-based kit: samples isolated using Akadeum's Microbubbles yielded an average of 32% more positive wells than samples isolated using the magnetics-based kit. Thus, giving Abbratech a greater number of cells to work with to produce antibodies for their customers in a third of the time of their previous workflow.

***"From the number of cells used in this work, we were able to see that Akadeum kit was clearly making a difference in the health of cells and allow for better downstream processing."***

### HIGHLIGHTS

- Results show higher throughput, processing three times the number of samples in a third of the time
- B cells were 32% more likely to survive and produce antibodies specific to the target of interest

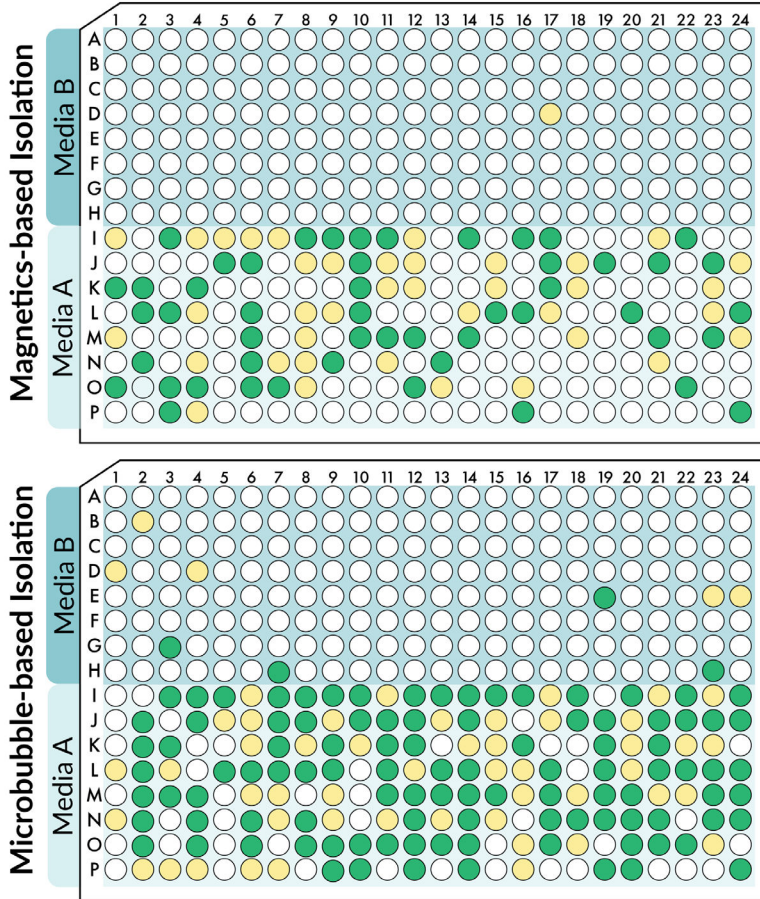
# AbbraTech



Magnetics Kit	Akadeum Kit
CD3, CD4, CD8, CD11b, CD49b, CD11b, CD49b, GR-1, TER-119	CD3, CD4, CD8a, CD11c, CD49b, GR-1, TER-119

**Figure 1: Enrichment antibody cocktails.**

Comparison of magnetics-based kit and Akadeum's mouse B cell enrichment negative selection antibody cocktails.



**Figure 2: Akadeum B cell isolation results in a higher frequency of antigen-specific cells ready for downstream sub-cloning.**

To determine which isolation method yielded the highest number of antigen-specific clones and to optimize culture conditions, splenocytes were isolated from mice immunized with keyhole limpet hemocyanin (KLH). Samples were then enriched in a head-to-head comparison using either the Akadeum Mouse B Cell Isolation Kit or a comparable magnetics-based kit. After enrichment samples were cultured for 6 days at two cell densities in two different media formulations. Akadeum's kit had a higher throughput, processing three times the number of samples in a third of the times, compared to the magnetics-based kit. Under optimized culture condition, B cells isolated using Akadeum's microbubbles were 32% more likely to produce antibodies specific to the target of interest than those isolated by magnetics.

*"Akadeum's kits allowed us to increase the number of samples that we can handle at one time."*

Overall, Akadeum's Microbubble cell isolation technology proved to be cost-effective and time-saving thereby allowing Abbratech to improve their mouse B cell cloning pipeline.

## About Abbratech

Founded in 2020, Abbratech is a comprehensive antibody development company, focused on developing more consistent, highly precise antibodies in a fraction of the time. Abbratech offers several services including antigen and project design, recombinant antibody development, antibody optimization, and antibody production.

## About Akadeum Life Sciences

Akadeum has developed the next generation in cell separation using buoyancy-activated cell sorting (BACS) microbubbles. These microbubbles have revolutionized the cell separation, allowing scientists to develop treatments 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 Mouse B Cell Isolation and other Microbubble Products online at [www.akadeum.com](http://www.akadeum.com).