

Creative Biolabs Unlocks Insights from Frozen Tissues and Hidden Cell States with Single-Cell Multi-Omics

Creative Biolabs, a leader in single-cell resolution solutions, has announced the strategic enhancement of its cutting-edge single-cell multi-omics portfolio.

SHIRLEY, NY, UNITED STATES, June 9, 2026 /EINPresswire.com/ -- The updated services specifically target two major bottlenecks in modern translational medicine: the inability to dissociate archived clinical frozen tissues without inducing transcriptional artifacts and the knowledge gap between single-cell mRNA transcription and functional surface protein expression.



In recent research, particularly within the tumor microenvironment (TME) and neurodegenerative disease cohorts, standard single-cell RNA sequencing (scRNA-seq) often faces severe technical bias. Tissues like the human brain, heart, and heavily fibrotic tumors are notoriously difficult to dissociate into viable single-cell suspensions. Furthermore, enzymatic dissociation frequently triggers artificial stress-induced gene expression, compromising data integrity.

To eliminate these barriers, Creative Biolabs introduces its specialized comprehensive [single-nucleus RNA sequencing services for difficult-to-isolate cells](#). By isolating intact nuclei instead of whole cells, this platform bypasses the harsh enzymatic digestion phase entirely. This method unlocks the invaluable potential of archived, cryopreserved clinical samples stored in biobanks, ensuring a zero-bias, stress-free look into the authentic nuclear transcriptome of large, fragile, or morphologically complex cell types like neurons and adipocytes.

However, resolving the dissociation barrier is only half the battle. Because post-transcriptional regulation often causes mismatches between mRNA and actual protein abundance, relying

solely on transcriptomic data can mislead therapeutic target discovery.

Addressing this critical gap, Creative Biolabs' enhanced multi-omics suite now features [simultaneous multi-omics measurement via single-cell REAP-seq assay](#) (RNA Expression and Protein Sequencing). Leveraging droplet microfluidics and DNA-barcoded antibodies, REAP-seq allows researchers to concurrently quantify over 20,000 genes and up to 100 surface proteins within a single workflow. This multi-dimensional approach provides unprecedented resolution for mapping immune cell exhaustion states, identifying rare progenitor cell types, and validating targets for antibody-drug conjugates (ADCs).

How Creative Biolabs Redefines Deep Precision Profiling for AI-Driven Genomics:

Biobank Compatibility: Seamless processing of fresh, flash-frozen, or long-term cryopreserved clinical specimens (~100mg tissue or 5×10^5 to 1×10^6 cells).

Eliminated Dissociation Bias: High-purity nuclear isolation ensures that cell types are identified based on unaltered in vivo states rather than artificial stress responses.

Dual-Vantage Validation: Overcomes the "RNA vs. Protein" mismatch by integrating high-throughput transcriptomics with barcode-amplified proteomics.

End-to-End Bioinformatics: Delivers publication-ready t-SNE/UMAP clustering, differential expression volcano plots, and marker gene identification dashboards.

"By combining single-nucleus resolution with multi-omics barcode technology, we are giving scientists the keys to unlock data that was previously trapped in frozen tissues," said a senior scientist at Creative Biolabs. "Whether it is identifying Trem2-dependent glial responses in Alzheimer's disease or evaluating the costimulatory effects of novel immuno-oncology agonists, our combined platforms deliver the multi-layered molecular evidence required for next-generation biomarker discovery."

About Creative Biolabs

Creative Biolabs operates a specialized single-cell omics platform dedicated to advancing high-resolution molecular profiling for both academic laboratories and industrial clients worldwide. Focused specifically on next-generation single-cell and single-nucleus sequencing technologies, the company provides bespoke, end-to-end multi-omics solutions.

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