

Enhancing Cell Isolation Precision with pluriBead: The Future of Positive Cell Separation

EL CAJON, CALIFORNIA, UNITED STATES, November 3, 2023 /EINPresswire.com/ -- PluriBead Technology is reshaping cell isolation by offering precision, speed, and efficiency while minimizing contamination, resulting in cost-effective, pure, and versatile applications that promise a brighter future for cell separation.



The Future of Positive Cell Separation

In the realm of [cell separation technology](#), precision is paramount.

Researchers, scientists, and medical professionals constantly seek innovative methods to improve the accuracy and efficiency of isolating specific cell types. One remarkable advancement in this field is pluriBead technology, which reshapes positive cell separation. With its unique approach and a host of benefits, pluriBead is poised to shape the future of cell isolation.

Understanding pluriBead Technology

pluriBead technology is a non-magnetic cell separation method combining specific antibody targeting with size exclusion. What sets it apart is its utilization of non-magnetic monodispersed microparticles, known as pluriBeads, coated with monoclonal antibodies (mAb) that specifically target structures on the cell surfaces. This novel approach offers numerous advantages over traditional methods.

In the pluriBead process, when the target cells are in suspension, they readily bind to the pluriBeads. The critical innovation lies in separating these bound cells from the suspension. Instead of using magnetic forces, pluriBead employs a pluriStrainer, which relies on size exclusion. There is no need for pretreatment of blood samples, such as [density gradient centrifugation principle](#) or erythrolysis, to concentrate the target cells.

The Power of Positive Selection

A distinctive feature of pluriBead technology is positive selection. With this method, a specific antibody directly binds to the cell type of interest, allowing for precise isolation. Unwanted cells that do not possess the targeted structure remain unbound and can be easily separated in the subsequent enrichment steps. When these labeled cells are coupled to pluriBeads, a cell strainer can be used to retain them, achieving the desired positive separation.

Advantages of pluriBead Technology

PluriBead technology offers a multitude of advantages that make it a leading choice in cell separation:

1. **Minimal Contamination:** The flow-through generated by pluriBead is free of antibody-bound beads. This clean flow-through can be utilized for another round of positive or negative [cell enrichment techniques](#). Importantly, the contamination with unbound cells, especially platelets or erythrocytes, is significantly reduced when cells are directly isolated from whole blood. It ensures a higher level of purity in the separated cell population.
2. **Efficiency and Speed:** Positive separation with pluriBead is not only precise but also faster. It does not require extensive preparation of whole blood samples, such as density centrifugation or erythrolysis, which are often time-consuming and complex procedures. This results in a streamlined workflow and a quicker turnaround time for researchers and medical professionals.
3. **Cost-Effective:** Traditional cell separation methods can be expensive due to the need for specialized equipment and reagents. PluriBead offers a cost-effective alternative that still maintains high levels of precision.
4. **Increased Purity:** PluriBead® Technology consistently delivers a higher level of purity in the isolated cell population, making it an ideal choice for applications where the purity of the target cell population is critical.
5. **Versatility:** The flexibility of pluriBead allows it to be applied to various sample materials, such as whole blood, buffy coat, or other cell suspensions. This versatility makes it a valuable tool in a wide range of research and clinical settings.

The pluriBead Principle

To further understand the power and simplicity of pluriBead technology, let's examine its three primary steps:

1. **Incubation:** In this step, the sample material (which can be whole blood, buffy coat, or other cell suspensions) is gently mixed with pluriBeads at room temperature. During this incubation, the target cells bind to the pluriBeads, thanks to the specific antibody coating.
2. **Washing:** After incubation, the target cells that are now bound to the pluriBeads are isolated from the sample material through sieving. The bead-bound target cells are retained on the pluriStrainer, while all other cells flow into a tube beneath.

3. Detachment: The final step involves detaching the target cells from the pluriBeads, which are still on the strainer, using a detachment buffer. These target cells are then washed into a fresh tube while the depleted beads remain on the strainer.

pluriBead technology is an advanced approach that enhances cell isolation precision and sets the stage for the future of positive cell separation. Its unique use of non-magnetic pluriBeads coated with target-specific monoclonal antibodies provides numerous advantages, including minimal contamination, efficiency, cost-effectiveness, increased purity, and versatility. The pluriBead process, consisting of incubation, washing, and detachment, simplifies the workflow and makes it an attractive option for researchers and medical professionals. With pluriBead, the future of cell separation is looking brighter than ever.

For more information on pluriBead and to place an order, please visit -

<https://uberstrainer.com/>

About Pluriselect

Pluriselect is one of the leading providers of innovative laboratory solutions that empower researchers to achieve advancements in cell analysis and sample preparation. With a commitment to innovation, quality, and excellence, Pluriselect's products are designed to elevate accuracy and consistency in laboratory processes, enabling scientists to push the boundaries of scientific exploration.

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