



## UNDER-OIL EXTRACTION USING EXCLUSIVE LIQUID REPELLENCY FOR CELL ISOLATION

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### The Invention

UW-Madison researchers have extended their previously developed "Exclusive Liquid Repellency" (ELR) multi-phase liquid system, by integrating it with a new magnetic isolation platform to permit isolation of immune cells from only a few microliters of blood. In this system, aqueous solutions submerged under oil are fully repelled by a hydrophobic solid surface under defined chemical and physical surface conditions, thereby preventing sample loss due to biofouling. The process is initiated by premixing whole blood samples with isolation cocktails and magnetic beads sourced from commercially available immune cell isolation kits. Following this, microliters of the blood mixture are pipetted into the ELR environment, where the whole blood is repelled from the surface, thus averting fouling. Subsequently, a magnet is brought into close proximity to the droplet of blood, facilitating the removal of red blood cells and undesired white blood cells, leaving behind only the targeted immune cells within the droplet.

### Additional Information

#### For More Information About the Inventors

- [David Beebe](#)

#### Tech Fields

- [Analytical Instrumentation, Methods & Materials: Microfluidics](#)

For current licensing status, please contact Jeanine Burmania at [jeanine@warf.org](mailto:jeanine@warf.org) or 608-960-9846