



Showcasing research Professor Jinsoo Park's Multiscale Flow Control Laboratory, School of Mechanical Engineering, Chonnam National University, Gwangju, Republic of Korea.

Microfluidic shape-based separation for cells and particles: recent progress and future perspective

Microfluidic shape-based separation is an emerging yet underdeveloped strategy that enables discrimination of cells and particles with similar size but distinct shape, critical for biomedical applications. This review summarizes recent advances in hydrodynamics, viscoelastic, electric, magnetic, optical, and acoustic approaches that exploit geometric anisotropy to achieve high-purity, high-efficiency separation. This work also outlines key mechanisms, technological progress, and future opportunities for scalable, precise shape-selective cell separation.

Image reproduced by permission of Jinsoo Park from *Lab Chip*, 2026, **26**, 1025.

As featured in:



See Jörg König, Jinsoo Park *et al.*, *Lab Chip*, 2026, **26**, 1025.