



Showcasing research from Professor Choi and Ha's laboratory, Department of Mechanical Engineering, Ajou University, Suwon, Republic of Korea.

Bistable magnetic valves for selective sweat sampling in wearable microfluidics

This study introduces a skin-conformal microfluidic platform with bistable, magnetically controlled valves for precise, chamber-specific sweat sampling. The valves switch states using external magnets and require no continuous power, offering energy-efficient fluid control. Embedded magnetic particles in a geometrically bistable shell ensure reliable actuation. The system enables high-resolution, localized, and contamination-free sweat collection, making it suitable for wearable biochemical monitoring applications.

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As featured in:



See Jungil Choi, Jonghyun Ha and Anna Lee *et al.*, *Lab Chip*, 2025, **25**, 5180.