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Vascular microphysiological systems (MPS): biologically relevant and potent models

Vascular microphysiological systems (MPSs) are gaining increasing significance due to advancements in microvascular patterning, three-dimensional organization, and both cellular and acellular modelling. These improvements have enhanced their biological fidelity, making vascular MPS powerful tools for investigating vascular biology in relation to key physical parameters such as flow, stretch, and permeability. In parallel, their translational relevance continues to grow, with promising applications in disease and cancer modelling, immunological studies, and preclinical drug screening. Together, these features position vascular MPS as versatile platforms bridging basic science and biomedical innovation.

As featured in:



See Ryuji Yokokawa *et al.*,
Lab Chip, 2025, **25**, 4221.