

Environmental Science: Atmospheres

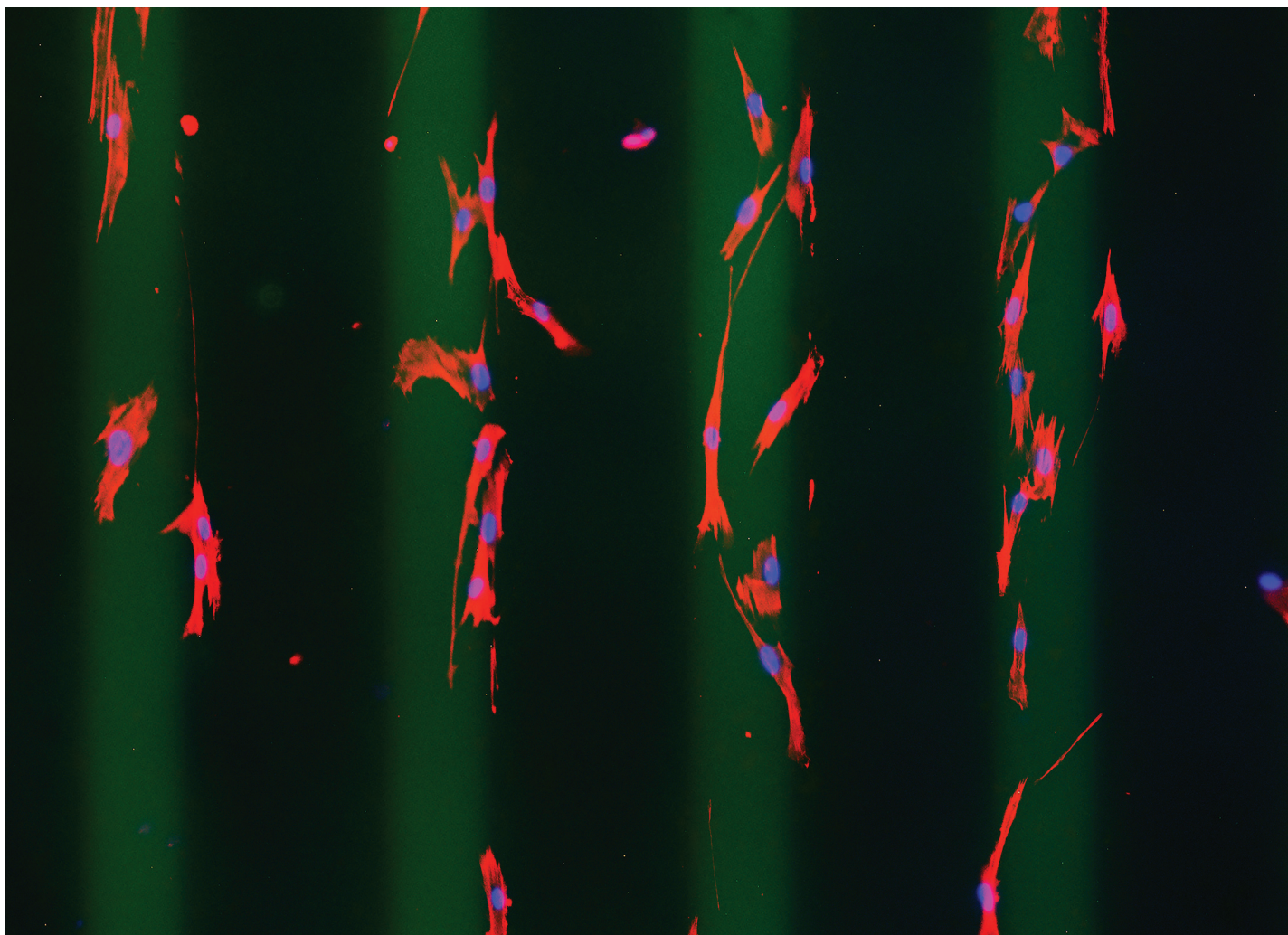
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Fundamental questions
Elemental answers





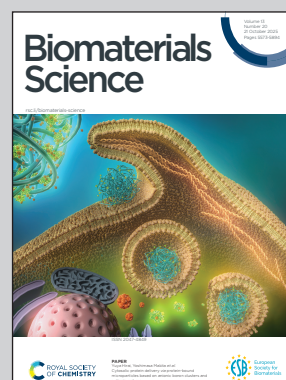
**Highlighting a research work from the Disease
Bioengineering Lab at the University of Utah, USA.**

A soft-stiff patterned bioengineering model reveals kinase pathways driving directional cell migration in pulmonary arterial hypertension

This study introduces a patterned “zebra-crossing” hydrogel that mimics the mechanical landscape of pulmonary arterial hypertension (PAH). When exposed to alternating soft-stiff stripes, PAH smooth muscle cells migrate directionally—revealing a stiffness-guided behavior regulated by JAK/STAT signaling. These findings highlight druggable kinase pathways behind mechanosensitive migration and open new avenues for targeting stiffness-driven vascular disease.

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As featured in:



See Taslim A. Al-Hilal *et al.*, *Biomater. Sci.*, 2025, **13**, 5671.