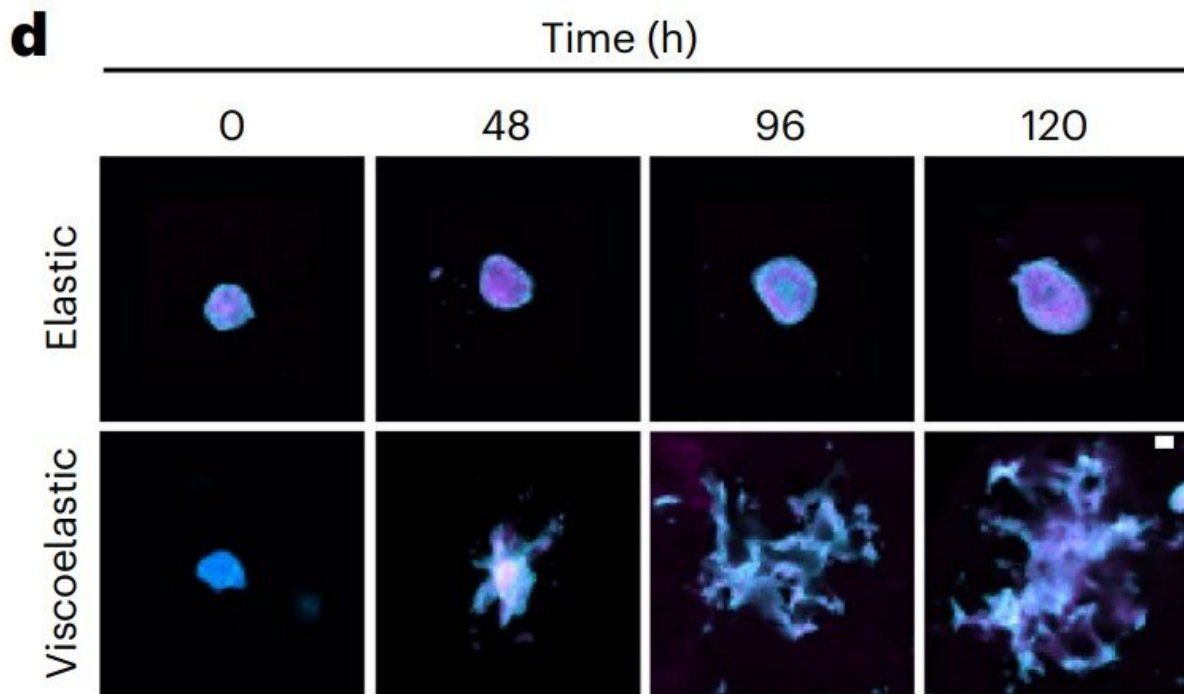


Tissue growth is influenced by whether local environment is firm or fluid

December 1 2022



Examples of growth of MCF10A spheroids in elastic versus viscoelastic hydrogels over 5 days. C. Credit: *Nature Materials* (2022). DOI: 10.1038/s41563-022-01400-4

We all know that genes influence how cells and tissues grow and develop, but new research has shed light on the importance of another factor: whether the environment around them is firm like Jell-O or fluid

like honey.

Researchers at the Wyss Institute for Biologically Inspired Engineering and Harvard University studied the growth patterns of clumps of human breast tissue in hydrogels of differing densities, and found that liquid-like environments caused the tissues to develop and organize themselves differently than more solid environments.

This research has important implications for understanding how organs develop, and how cancers might grow differently based on the local microenvironment where they form.

The research will be published on Thursday, Dec. 1 in *Nature Materials*.

More information: Lakshminarayanan Mahadevan, Matrix viscoelasticity controls spatiotemporal tissue organization, *Nature Materials* (2022). DOI: [10.1038/s41563-022-01400-4](https://doi.org/10.1038/s41563-022-01400-4).
www.nature.com/articles/s41563-022-01400-4

Provided by Harvard University

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