

Yeast thrives in hydrogen

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For the first time, yeast and E coli have been shown to survive in a 100% hydrogen atmosphere. Neither E coli nor yeast are adapted to living under hydrogen. The findings suggest that life could exist on exoplanets with a hydrogen-rich atmosphere.

Researchers grew the two microorganisms in solutions saturated with hydrogen in bottles also filled with the gas. Both species survived and even reproduced. E coli grew half as fast in hydrogen as in air, but faster than in a nitrogen/carbon dioxide atmosphere. This is because carbon dioxide acidifies the growth medium. Yeast cells grew two and a half times faster in air than under hydrogen. Without oxygen, yeast cannot synthesise certain chemicals such as haem, and rely on external sources of these compounds.

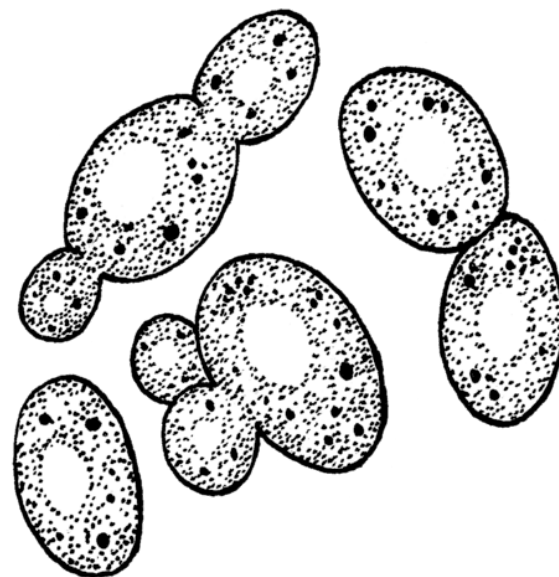


Illustration of yeast cells



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1. Why does yeast grow more slowly in hydrogen than in air?
2. Describe a test to show the presence of hydrogen gas.
3. Suggest why the Earth has no hydrogen in its atmosphere.