

New quorum-sensing pathway in yeast found

April 17 2006

U.S. researchers say they have discovered a novel quorum-sensing pathway in *Saccharomyces cerevisiae*, also known as baker's yeast.

Quorum sensing is the ability of bacteria to communicate and coordinate behavior by way of signaling molecules.

Hao Chen and Gerald Fink of the Cold Spring Harbor Laboratory in New York State say their finding provides unprecedented mechanistic insight into how individual yeast cells can coordinate their growth patterns to best respond to both nutrient availability as well as population density.

While quorum sensing is a well-established mode of intercellular communication in bacteria, its role in fungal systems is still emerging. Chen and Fink found *S. cerevisiae* use aromatic alcohols as signals to stimulate filamentous growth in response to nitrogen starvation.

Interestingly, they said those molecules elicited different effects in the yeast strain *Candida albicans*, suggesting the newly identified fungal quorum sensing signals are species-specific.

"The ability of these quorum sensing molecules to stimulate growth or alter morphology could be important in pathogen virulence where the infecting organism is initially present in only small numbers of cells," added Fink.

Their paper is to be published online ahead of print in *Genes &*

Development.

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Citation: New quorum-sensing pathway in yeast found (2006, April 17) retrieved 20 March 2024 from <https://phys.org/news/2006-04-quorum-sensing-pathway-yeast.html>

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