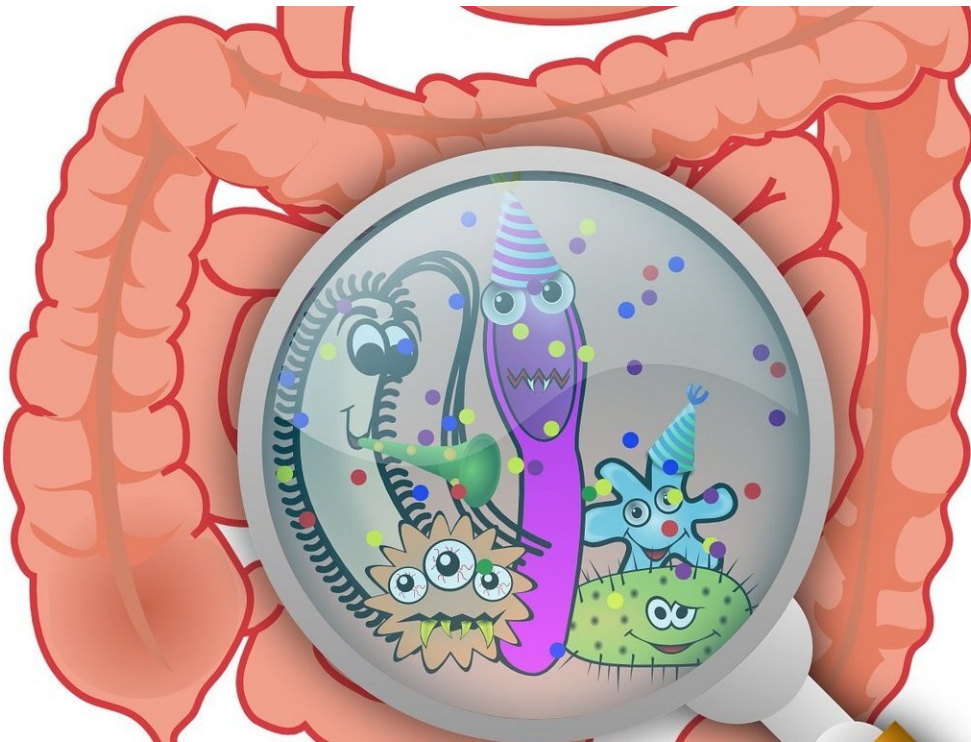


Novel study reveals presence of fungal DNA in the fetal human gut

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A recent human study published in *The FASEB Journal* discovered the presence of fungal communities in the fetal gut. The study marks the first of its kind to observe fungal DNA in this developmental setting.

To conduct the experiment, researchers collected the first stool after

birth from babies born at term and babies born preterm. Termed "meconium," the first stool consists of leftover material from intestinal formation. Researchers then used MiSeq sequencing to detect and classify fungal and bacterial DNA, reconstruct the interkingdom community structure, and examine the structure of those communities based on gestational age at birth. They also screened for live bacteria and fungi using culture-based techniques.

The study found that the [human fetus](#) may be exposed to fungal DNA in a natural, gradual process that is intertwined with [human development](#) and may begin prior to birth. While it remains unclear how microbial DNA accumulates in the fetal gut, these microbial components appear to be present early in pregnancy and likely play important roles in [human health](#) and development.

"Understanding how initial fungal colonization naturally occurs allows us to begin exploring how this process goes wrong in some individuals," said Kent Willis, MD, an Assistant Professor of Pediatrics in the Division of Neonatology at the University of Tennessee Health Science Center. "Disordered gut fungal colonization has been implicated in a wide range of diseases, from [inflammatory bowel disease](#) to asthma. We provide data here that gives us new insights into how these processes may be influenced."

"This is a fascinating development, raising intriguing new questions to be tackled," said Thoru Pederson, Ph.D., Editor-in-Chief of *The FASEB Journal*.

Provided by Federation of American Societies for Experimental Biology

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