

New research questions role of gut parasite in intestinal diseases such as irritable bowel syndrome

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New University of Kent-led research on the way a common gut parasite behaves could help lead to a better understanding of its role in the development of intestinal diseases such as irritable bowel syndrome.

A team at the University of Kent, working with researchers from other universities, found that the microbe *Blastocystis*, commonly found in the guts of both humans and animals, can survive under conditions previously thought impossible.

Dr. Anastasios Tsaousis and Dr. Campbell Gourlay discovered that, contrary to what had previously been thought, *Blastocystis* does not die when oxygen levels rise.

In a healthy gut, the oxygen concentration is normally extremely low. However, in people suffering from intestinal disease, the [disease](#) often leads to a gut imbalance, causing oxygen levels to increase.

If *Blastocystis* was a strict anaerobic organism—meaning it does not require oxygen for growth and may even die if it is present—it would be unlikely to survive such conditions. However, this was not the case, with the study results showing that *Blastocystis* cells consume oxygen via a unique enzyme.

Lead author Dr. Tsaousis, Senior Lecturer in Molecular and

Evolutionary Parasitology, said: 'The research has shown, contrary to previous thinking, that this microbe can deal with oxygen.

This could prove to be important in establishing its role in diseases such as [irritable bowel syndrome](#) that result in a microbial imbalance of the gut with increased [oxygen](#) concentrations.'

More information: Anastasios D. Tsaousis et al, The Human Gut Colonizer Blastocystis Respires Using Complex II and Alternative Oxidase to Buffer Transient Oxygen Fluctuations in the Gut, *Frontiers in Cellular and Infection Microbiology* (2018). [DOI: 10.3389/fcimb.2018.00371](#)

Provided by University of Kent

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