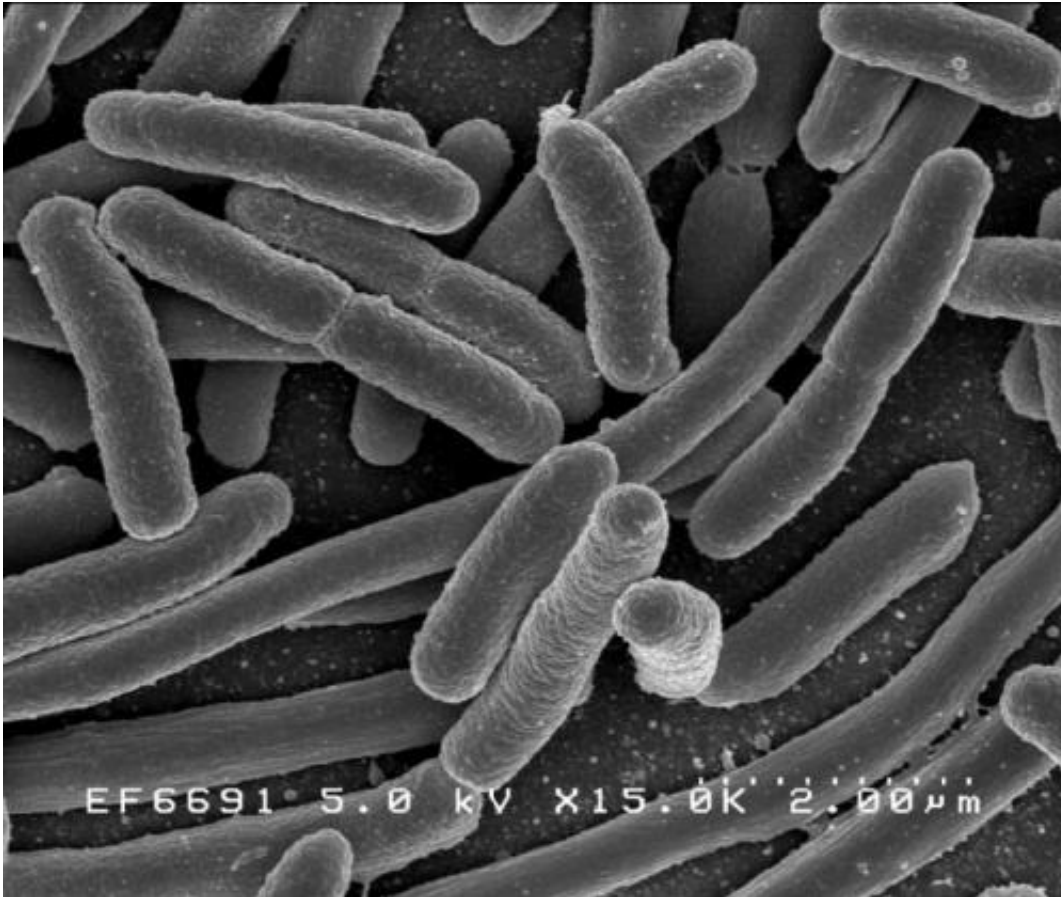


Recurrent UTIs linked to hidden reservoir

July 10 2020, by Sarah Glass



Escherichia coli. Credit: Rocky Mountain Laboratories, NIAID, NIH

Urinary tract infections (UTIs) frequently recur due to bacteria constructing safe havens within the host. While infection is frequently caused by uropathogenic *Escherichia coli* that originates in the gut, little is known regarding vaginal colonization leading to recurrent UTIs.

John Brannon, Ph.D., Maria Hadjifrangiskou, Ph.D., and colleagues demonstrated that UTI-causing bacteria not only invaded vaginal cells to create a reservoir and escape antibiotic assault, but also traversed from the reproductive tract to the urinary system.

The team also found that vaginal cell invasion occurs by a separate mechanism than bladder infection, requiring a different signaling pathway to remodel the [host cell](#) for bacterial uptake.

These findings, reported in *Nature Communications*, elucidate a new stage in UTI progression with a unique mode of vaginal cell invasion to create a protective niche for the bacteria and a reservoir for reestablishing infection. The vaginal niche constitutes a potential new avenue exploited by *E. coli* to cause recurrent urinary tract infection.

More information: John R. Brannon et al. Invasion of vaginal epithelial cells by uropathogenic *Escherichia coli*, *Nature Communications* (2020). [DOI: 10.1038/s41467-020-16627-5](https://doi.org/10.1038/s41467-020-16627-5)

Provided by Vanderbilt University

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