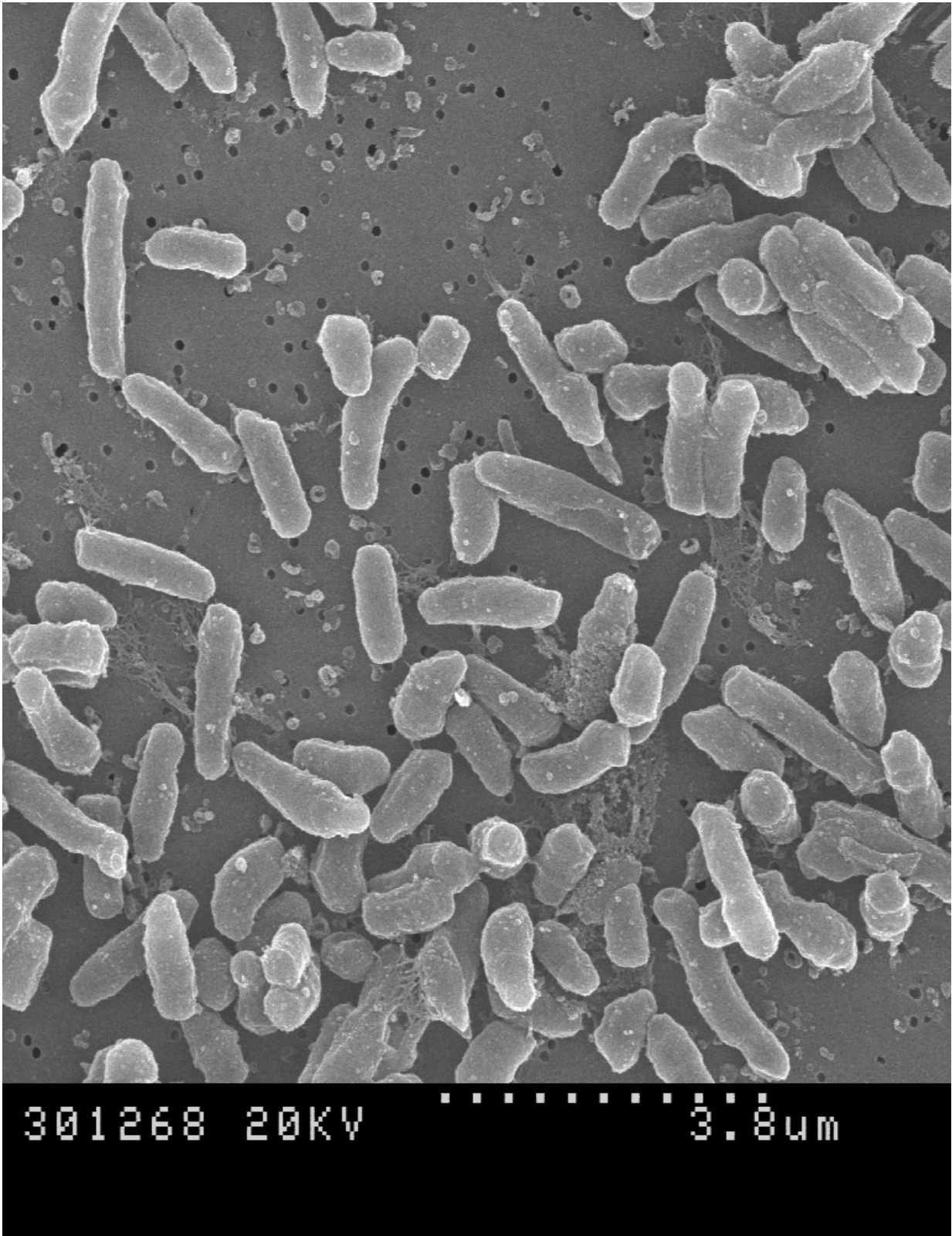


# **Possible new treatment for bladder cancer using a mycobacterium**

October 6 2015

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Photograph of *Micobacterium brumae* under the microscope

Universitat Autònoma de Barcelona researchers have found a mycobacterium that is more effective in treating superficial bladder cancer and does not cause infections, unlike those used up to now.

Mycobacteria are the only bacteria used in cancer [treatment](#). The administration of the bacterium *Mycobacterium bovis* (BCG), is the current treatment for superficial [bladder cancer](#). It is inserted directly into the bladder through a catheter. BCG prevents new tumours from appearing, but despite its efficacy it has many [adverse side effects](#), the most serious being BCG infections that need to be treated with antituberculous drugs.

A study on the characteristics of a wide group of mycobacteria begun seven years ago by the Mycobacteria Research Group, led by Dr Esther Julián, of the Department of Genetics and Microbiology, Universitat Autònoma de Barcelona, has discovered that one of these, *Mycobacterium brumae* (*M.brumae*), is able to reduce the growth of tumour cells in the bladder and activate an immune response.

Pre-clinical studies using mouse models of bladder cancer have demonstrated the efficacy of the mycobacterium *M. brumae* in the treatment of this disease. Mice with bladder tumours that are treated with *M. brumae* in the same way as patients survive longer than untreated mice and, what is more, in larger numbers than those treated with the usual mycobacterium: BCG.

The studies conducted at the UAB have shown that *M. brumae* is not pathogenic, presenting no risk of causing infections, which means it would have fewer adverse side effects on patients than BCG.

Furthermore, the fact that *M. brumae* is a rapid-growth, non-pathogenic

mycobacterium makes it easier and quicker to produce on a large scale than BCG, which is significant given that in the last few years BCG production problems have led to supply issues for certain bladder cancer patients.

"Our results suggest that *Micobacterium brumae* is an ideal candidate to replace the current BCG treatment for superficial bladder cancer", concludes UAB researcher Esther Julián.

**More information:** "The non-pathogenic *Mycobacterium brumae* inhibits bladder cancer growth in vitro, ex vivo, and in vivo." *European Urology FOCUS*. [DOI: 10.1016/j.euf.2015.03.003](https://doi.org/10.1016/j.euf.2015.03.003).

Provided by Universitat Autònoma de Barcelona

Citation: Possible new treatment for bladder cancer using a mycobacterium (2015, October 6) retrieved 26 April 2024 from <https://medicalxpress.com/news/2015-10-treatment-bladder-cancer-mycobacterium.html>

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