

# Oxidase test

**Oxidase test** (also known as *the Kovacs test*) is used to determine bacteria, especially in urogenital infections. Gram-negative bacteria, which produce some types of cytochrome c oxidase, give a positive result<sup>[1]</sup>. **Oxidase-positive** includes, for example, *Pseudomonas aeruginosa*, *Pasteurella multocida*, *Vibrio spp.*, *Aeromonas spp.* or *Neisseria spp.*<sup>[2]</sup>. **Oxidase-negative**, on the other hand, includes *E. coli*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, *Serratia spp.* and *Acinetobacter spp.*

The oxidase assay uses a redox reagent that is colorless in the reduced form and intensely colored in the oxidized form (usually blue). The agent can be applied to bacterial colonies in liquid form. More commonly, diagnostic strips impregnated with reagent are applied to the bacterial colony.



*Moraxella catarrhalis* colony on blood agar and positive oxidase test. Taken from <sup>[3]</sup>.

## Link

## Reference

1. FREEMAN, – ROBERTS, Sally. *UpToDate : Approach to Gram stain and culture results in the microbiology laboratory* [online]. Wolters Kluwer, [cit. 2019-07-06]. <[https://www.uptodate.com/contents/approach-to-gram-stain-and-culture-results-in-the-microbiology-laboratory?search=oxidase%20test&source=search\\_result&selectedTitle=1~150&usage\\_type=default&display\\_rank=1#H25](https://www.uptodate.com/contents/approach-to-gram-stain-and-culture-results-in-the-microbiology-laboratory?search=oxidase%20test&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H25)>.
2. ROUPHAEL, Nadine G. – STEPHENS, David S.. *Neisseria meningitidis: Biology, Microbiology, and Epidemiology. Methods in Molecular Biology*. 2011, y. ?, vol. ?, p. 1-20, ISSN 1064-3745. DOI: 10.1007/978-1-61779-346-2\_1 ([http://dx.doi.org/10.1007%2F978-1-61779-346-2\\_1](http://dx.doi.org/10.1007%2F978-1-61779-346-2_1)).
3. Microbiologyinpictures.com. *Moraxella catarrhalis colonies on sheep blood agar after 24 hours at 37°C : Positive oxidase test result* [online]. ©2015. [cit. 2019-07-07]. <<https://www.microbiologyinpictures.com/>>.

## Source

- ws:Oxidázový test