

Bactident® Oxidase

For the testing of cytochrome oxidase in microorganisms.



In Vitro Diagnostic Medical Device –

For professional use only



Version 17-10-2008

Merck KGaA, 64271 Darmstadt

*See also General Instruction for Use
„How to use Dehydrated Culture Media“*

*For MSDS, warnings and precautions see our website:
www.merck-chemicals.com*

Principle

Microbiological method.

Mode of Action

The cytochrome oxidase is an enzyme of the iron porphyrine group which is very widely distributed in nature. It oxidizes the reduced cytochrome c and is thus transformed itself into the reduced and inactive form. Through transfer of the electrons to molecular oxygen the reduced cytochrome oxidase is transformed again into the active form.

In the presence of molecular oxygen the cytochrome oxidase/cytochrome c-system can reduce a whole series of organic substances, among them the so-called NaDi reagent (1-naphthol + dimethylparaphenylene diamine) with formation of the condensation molecule indophenol blue.

This reaction is used for the classification and identification of bacteria.

Typical Composition

The reaction zone of a teststrip contains:

N,N-dimethyl-1,4-phenylene diammonium chloride 0.1 µmol;
1-naphthol 1.0 µmol.

Application

The separate colonies grown on a culture medium or, in the case of pure cultures, an inoculation loop full are being tested. Instead with bacterial mass the reaction may also be performed with a dense bacterial suspension.

See also General Instruction of Use.

Stability

See expiry date.

Only remove the amount of strips needed at the time!

Do not touch the reaction zones of the test strips.

Close receptacle firmly immediately after use. The strips with deep brown coloured reaction zone are unusable. Please store at the specified temperature.

Storage

Store tightly closed in a cool dry place at +2 °C to +8 °C.

Safe removal

The test strip is to be removed safely after use like bacteria containing material. This may be done by burning, autoclaving or by placing into a 5 to 6% disinfectant solution - for at least 6 hours.

Experimental Procedure

With an inoculating loop take a separate, wellgrown colony from the culture medium.

Apply the colony to the reaction zone and spread with the inoculating loop.

After approx. 20 to 60 seconds compare with the colour scale.

Evaluation

In the case of cytochrome oxidase-positive germs the reaction zone is coloured blue to blue-violet.

Medically important oxidase-**positive** microorganisms

Neisseria (all species)	Actinobacillus ligniereslii
Aeromonas spp.	Actinobacillus equuli
Pasteurella spp.	Bordetella pertussis
Vibrio spp.	Bac. anthracis
Cordiobacterium hominis	Bac. subtilis
Pseudomonas spp.	Brucella spp.
Flavobacterium spp.	Chromobacterium spp.
Alcaligenes spp.	Eikenella corrodens
Moraxella spp.	Plesionmonas spp.
Campylobacter spp.	Branhamella catarrhalis
Micrococcus spp.	

Oxidase-negative microorganisms

Staphylococcus spp.	Pseudomonas mallei
Streptococcus spp.	Pseudomonas maltophilia
Gemella haemolysans	Bordetella parapertussis
Peptococcus spp.	Actinobacillus
Peptostreptococcus spp.	Actinomycetem-comitans
Leuconostoc spp.	Anaerobier (all)
Corynebacterium spp.	Haemophilus spp.
Listeria spp.	Pasteurella haemolytica
Lactobacillus spp.	Type T
Bacillus spp.	Streptobacillus
Enterobacteriaceae (all kinds)	Mycoplasma spp.
Acinetobacter spp.	Acholeplasma spp.

Note:

It is always recommended to carry out a control test with a negative culture (e.g. *E. coli*), with a weakly positive culture (e.g. *Pasteurella*) and with a strongly positive culture (e.g. *Pseudomonas* for *Aeromonas*). The most suitable cultures for this test are those from culture media without dyes, indicators or inhibitors. Should the bacteria culture itself have a colour, this must be taken into consideration in the assessment of the tests.

Bacterial colonies taken from media with pH values below 5.5 (e.g. after the metabolism of carbohydrates with subsequent acidification of the culture medium) can give a false negative oxidase reaction. In such cases, the microorganisms should be subjected to an intermediate passage on a medium on which the bacteria concerned cannot reduce the pH value below 6.0.

Ordering Information

Product	Ordering No.	Pack contents
Bactident® Oxidase	1.13300.0001	50 test strips