ONPG TEST DISC

ONPG discs are used for the detection of β-galactosidase activity. Lactose utilization depends on two enzymes: β-galactoside permease (not present in late lactose fermenters), which catalyzes transport of lactose into the cell, and β-galactosidase, which breaks down lactose into galactose and glucose. β-galactosidase is not lactose specific and can act on simple galactosides including ONPG (o-nitrophenyl-β-D-galactopyranoside) substrate. ONPG hydrolysis results in the release of galactose, and the yellow chromogenic compound, o-nitrophenol. The test substrate, ONPG, does not depend on an induced or constitutive permease enzyme to enter the cell, therefore reactions are rapid and occur within a 24-hour period even for late lactose fermenters.

Description	
Code number:	O/NPG
Disc diameter:	6 mm
Package:	50 discs/vial 5 vials/box

Direction:

1. Place one ONPG disc into a sterile test tube. Add 1 ml of sterile physiological salt solution (0,85% sodium chloride solution).
2. Pick up a colony to by tested with a sterile loop and inoculate it into the test tube containing the disc and physiological saline. Incubate at 35 °C for 1-6 hours.
3. Observe the reaction within the 1-6 hours period.
4. To detect the late lactose fermenters, incubate the negative tubes for up to 24 hours.

Evaluation:

Positive: colour change to yellow
Negative: no colour change

FORMULA

o-nitrophenyl-β-D-galactopyranose	100 µg/disc

Storage conditions:

Store the vials protected from light at 2 – 8 °C.

Quality control:

It is recommended to test all ONPG Test Disc lots with known positive and negative micro-organisms.

Test strains		**Result**
Escherichia coli	ATCC 25922	Positive: colour change to yellow
Salmonella typhimurium	ATCC 14028	Negative: no colour change

References: Baron et al. (1995) Bailey and Scott's Diagnostic Microbiology, 9th ed.
MacFaddin (2000) Biochemical Tests for Identification of Medical Bacteria, 3rd ed.

In vitro diagnostics - for professional use only!