

# GRIESS-ILOSVAY REAGENT

Reagent for detection of microbial nitrite.

Description	
Code number:	100 ml: GIR60100 (50 ml Nitrite A Reagent + 50 ml Nitrite B Reagent)
Colour:	Water clear
Appearance:	Transparent, precipitation free solutions

## Procedure:

The pure culture of the microorganism to be tested is inoculated into Nitrate Broth. Incubate for 12-24 hours at the appropriate temperature. After incubation, add 0,1 ml of both reagents (A and B) to the culture.

### Positive reaction:

If nitrite is present an intense red colour appears within three minutes. The intensity of the colour is proportional to the quantity of nitrite formed.

### Negative reaction:

There is no red colouration within three minutes. Negative reaction indicates (a) that nitrate has not undergone any reaction or (b) that nitrate has been reduced to N<sub>2</sub>. In such cases the "zinc test" must be performed to verify the result.

### Zinc Test:

Add a quantity of zinc powder about the size of a peas corn for every 10 ml of culture medium and allow to settle without shaking. If colouration does not appear within 45 minutes, then add again 0,1 ml of both reagents (A and B) to the culture. Watch the mixture for another 15 minutes.

## Evaluation:

Nitrate reduction to nitrite:	Red colour appears after adding the reagent.
Nitrate reduction to N <sub>2</sub> :	A bubble is formed in the Durham tube, but red colouration does not appear after adding neither the reagents nor the zinc powder.
No nitrate reduction:	After adding the reagent there is no red colouration, but the red colour appears after adding the zinc powder.

## FORMULA

Nitrite A Reagent	
Sulfanilic acid	0,8 %
Solvent	acetic acid

Nitrite B Reagent	
1-Naphthylamine	0,5 %
Solvent	acetic acid

**Storage conditions:** Protected from light, at room temperature.

### Warning!

Use the reagents only before the expiry date on the label.

## Quality control:

Test strains	Incubation temp.: 37 °C	Result	Incubation time: 24 h
<i>Escherichia coli</i>		Positive - Nitrate reduction to nitrite	
<i>Pseudomonas aeruginosa</i>		Positive - Nitrate reduction to N <sub>2</sub>	
<i>Acinetobacter calcoaceticus</i>		Negative - No nitrate reduction	

References: Griess (1858) Annalen 106: 123.

**In vitro diagnostic – for professional use only!**