

# Obermeyers Reagent

## (indican)

Product information for qualitative indican detection in urine according to Obermayer.

### Principle

In the small intestine, putrefactive bacteria convert tryptophan to indole by decarboxylation. Indican is then absorbed and oxidized in the blood to toxic indoxyl. Detoxification in the liver normally occurs by binding to sulfuric or glucuronic acid to form indoxyl sulfuric acid. After conversion to indican (=  $\text{KHSO}_4$ -indoxyl), it is urinary. Thus, indoxyl occurs in the blood, indican in the urine and indole in the stool. Indoxyl is released from urinary indican by acid hydrolysis, which is oxidized by  $\text{Fe}^{3+}$  to indigo. The blue dye is soluble in chloroform.

### Reagents

The solution is ready for use and stable at room temperature until the printed expiry date.

#### Hazards and safety

Consider the necessary precautions when using laboratory reagents. Handling should be carried out by trained personnel only. Wear protective clothing and disposable gloves during work.



For further safety information, please refer to the corresponding Safety Data Sheet (SDS). The availability of the SDS before use is required by law.  
Download via QR code or link: [www.sds-id.com/150010-7](http://www.sds-id.com/150010-7)

#### Contents / Main components

003513-0500 1x 500 ml Obermeyers Reagent  
Hydrochloric acid 37% (fuming), 7.40mmol/l Fe(III)chloride, nonre-active components.

#### Additives

003514-0100 100 ml lead acetate solution 10%  
066105-0250 250 ml chloroform p.a.

### Sample material

Fresh urine. For 24-hour urine, add 5 g sodium bicarbonate to first urine sample, store in refrigerator.

### Reference areas

	[mg/24h]	[ $\mu\text{mol}/24\text{h}$ ]
indican quantitative : .....	4 ... 20	19 ... 95
indican qualitative: .....	pink coloring	

### Procedure

Place in a beaker:

Urine (fresh, acidic): approx. 25 ml

Lead acetate solution: approx. 3 ml

Shake, let it rest for 2...3 minutes and filter afterwards.

Use a tall testtube, add:

Filtrate: approx. 10 ml

Obermeyers Reagent: approx. 10 ml

Let it rest for 2...3 minutes. Afterwards add:

Chloroform: 2...3 ml

Close the testtube and mix gently by light tilting the testtube multiple times. (Do not shake, otherwise an emulsion will form!)

### Evaluation

#### Qualitative

Chloroform (lower phase) becomes light pink to deep blue corresponding to the indicane content. Low concentrations are often only detectable after hours.

#### Quantitative

For quantitative photometric determination, please refer to the literature given.

### Performance characteristics

#### Interferences

Iodides and bromides interfere because, after the oxidation to elemental halogens they color the chloroform violet or yellow-brown and mask the indigo coloration.

If the urine contains protein, emulsions (which are difficult to separate) with chloroform are easily formed by shaking.

### Diagnostics

Increased indican excretion with increased protein putrefaction in the intestine: enteritis, pancreatic insufficiency, achyly, intestinal stenosis, peritonitis, typhoid fever, chronic constipation.

Decreased excretion in renal insufficiency.



## Notes

### **Other Methods**

A quantitative determination method (indicating concentration [mg/dl;  $\mu\text{mol/l}$ ], indicating excretion/24h [mg/24h;  $\mu\text{mol/24h}$ ]) with Obermeyers reagent is also possible. For this purpose a spectrophotometer (Hg 578nm) with glass cuvettes is required. Further information on request.

The procedure described here is the method evaluated according to the literature. Other procedures described with Obermeyers reagent can also be performed with this reagent; however, they are the responsibility of the user.

### **Support / Info service**

Methodical and technical support is available via eMail at [support@biorapid.de](mailto:support@biorapid.de). In addition, inquiries can also be made by telephone or fax.

Check the up-to-dateness of this product information regularly on our Internet pages.

### **Disposal**

Please follow your national laws and regulations.

Used and expired solutions must be disposed of in accordance with local regulations.

Within the EU, the regulations based on Council Directive 67/548/EEC of the approximation of laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances, as amended, apply.

Decontaminated packaging can be disposed of with household waste or recycled, unless otherwise regulated.

## Literature & Footnotes

Graphic symbols and markings used are available according to the standard or on our internet pages.

[1] Merck, Klinisches Labor, 1974 p. 361 und 450.