

## BILIRUBIN TOTAL Assay Kit JENDRASSIK/GROF METHOD

Cat.No: OttoBC132

### Summary & Explanation

80-85% of bilirubin originates on degradation of hemoglobin with the other 15-20% being derived from cytochrome, myoglobin and catalases. Unconjugated bilirubin, which binds to plasma albumin, is produced in the course of degradation in the reticuloendothelial system, liver Kupffer cells, spleen and bone marrow. Unconjugated (primary, indirect, water-insoluble) bilirubin is soluble in lipids and toxic. With the aid of the glucuronyl transferase enzyme, bilirubin is conjugated primarily by glucuronic acid in the microsomes of hepatic parenchymal cells. In contrast to unconjugated bilirubin, conjugated (secondary, direct) bilirubin is soluble in water, and is excreted via the kidneys. Bilirubin assays are suitable for evaluating the degree of severity of icteric clinical symptoms as well as for monitoring and objectively assessing these symptoms. Distinguishing between direct and indirect bilirubin is a valuable aid in the differential diagnosis of different forms of jaundice. A direct bilirubin value of 50% in hepatic and post-hepatic jaundice.

### Test Principle

Jendrassik-Gróf method In the presence of caffeine accelerator, total bilirubin couples with sulfanilic acid to form a red azobilirubin dye, the color intensity which is proportional to the bilirubin concentration. Determination of direct bilirubin is performed without caffeine additive. The addition of alkaline tartrate causes a transformation from the red azobilirubin dye to a blue dye and the absorbance maximum from 546nm to 578nm.

### Kit Components

Content	Explanation	Shelf life
Reagent-1	1x30ml	6 months
Reagent-2	1x10ml	6 months
Calibrator	1x0.5ml	6 months
Q.Control	1x0.5ml	6 months

### Storage & Stability

Reagent: Stable up to expiry date when stored capped and at +4°C even after start using

Calibration and Quality Control: Reconstitute the contents of with 0.5 ml of redistilled water . Stable for 2 days when stored at +4°C

### Reactivity

Universal

### Specimen

Fresh serum, heparinized plasma or EDTA plasma. Hemolysis interferes with the test.

Don't use lipemic serum.

Keep out of light and protect the sample from the effects of sunlight.

Stability: 7 days at +2°C - +8°C, 30 days at - 70°C

### Assay Range

0.05-20 mg/dl

### Reference Range

Each laboratory is recommended to establish their own reference values.

### Analytical Performance

Inter Assay Coefficient of Variation (CV) % 2.6

Intra Assay Coefficient of Variation (CV) % 2.5

### Procedure

Wavelength	510nm (±10nm)
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Sample or Standard	15µl
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Reagent-1	300µl
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Mix, incubate at room temperature for 5 minutes. Read sample absorbance.

Reagent-2	75 µl
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Mix, incubate at room temperature for 5 minutes. Read Calibrator absorbance.

Zero Adjustment	Sample blank
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### Calculation

with factor; Concentration mg/dl = 31,3 x A Bilirubin Total

with calibrator; Concentration mg/dl = ( A<sub>sample</sub> / A<sub>calibrator</sub> ) x calibrator conc.

## Warning

For in vitro use only

Do not pipette by mouth

Do not use reagents beyond the expiry date.

## References

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