

# Methemoglobin

## General:

Methemoglobin contains iron III (Hemoglobin) and can not transfer O<sub>2</sub>. The physiological met-Hb content in blood is less than 1.5% of the total hemoglobin concentration. Cyanosis is visible in increased Met-Hb concentrations. The cause of methemoglobinemia is often due to medicament's or toxic substances. Symptoms usually appear when the met-Hb reaches values of more than 40% of the complete Hb.

Material: 1 ml EDTA hemolysate ( frozen)

Preanalytics Blood collection: EDTA blood, blood samples must not be refrigerated.

Submission: Frozen EDTA hemolysate

### Instructions for the preparation of the hemolysate:

- Haemolysis of erythrocytes is achieved by diluting the blood with distilled water
- Mix 200 µl EDTA blood with 9800 µl (9.8 mL) distilled water
- Invert the tube gently a few times and clearly mark it as a" EDTA hemolysate"
- freeze at -20°C depending on the duration until measurement (max. 48 hours stable in unfrozen condition)

Please Note: **Stability in blood at room temperature (approx. 20-25°C): max. 4 hours!**

The sample must therefore be taken immediately to the laboratory for analysis. Since methaemoglobin can be enzymatically transformed to haemoglobin in intact erythrocytes and converted to HbO<sub>2</sub>, the measurement must be carried out at the latest within 2-4 hours after blood collection (source: L. Thomas, Laboratory and Diagnosis, 6th edition, 2005, p. 698).

Sample rejection factors: Hypertriglyceridemia (<1000 mg/dl) and hyperbilirubinemia (>10 mg/dl).

**If the sample cannot be measured directly in the laboratory or within 4 hours after collection, the red cells must be lysed directly after blood collection and EDTA hemolysate must be sent for testing.**

The haemolysate has an increased stability of 48 hours and about 1 month in frozen condition at -20°C.

TAT: 5-7 days\*

Method: PHO

Units: %

Ref.- range: see report



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