LIPID PEROXIDE
(Malondialdehyde)

Colorimetric Method **25 Tests**
For Research Only

PRINCIPLE :

Thiobarbituric acid (TBA) reacts with malondialdehyde (MDA) in acidic medium at temperature of 95°C for 30 min to form thiobarbituric acid reactive product the absorbance of the resultant pink product can be measured at 534 nm.

SAMPLE :

Serum, Urine and appropriate concentration of tissue homogenate.

REAGENTS :

1.	**Standard**	**10 nmol / mL**
2.	**Chromogen** **Thiobarbituric acid** **Detergent** **Stabilizer**	**25 mmol / L**

STABILITY:

Stable until the expiry date specified when stored at +4 to +8 °C.

PROCEDURE:

	Sample ml	Standard ml	Blank ml
Sample	**0.2**	**-**	**-**
Standard	**-**	**0.2**	**-**
Chromogen	**1.0**	**1.0**	**1.0**

Mix well, cover the test tube with glass bead, heat in boiling water bath for 30 min, COOL , then add :

Sample	**-**	**-**	**0.2**

Mix, read the absorbance of sample (A_{Sample}) against blank and standard aganist d. water at 534 nm. Color stable for 6 hrs. Linearity up to 100 nmol/ ml .

CALCULATION :

Malondialdehyde in sample :

$$\text{Serum} = \frac{A_{Sample}}{A_{Standard}} \times 10 \quad \text{nmol / ml}$$

$$\text{Tissue} = \frac{A_{Sample}}{A_{Standard}} \times \frac{10}{\text{g. tissue used}} \quad \text{nmol / g.tissue}$$

REFERENCE :

- **Satoh K. , Clinica Chimica Acta (1978) , 90 , 37 .**
- **Ohkawa, H. , Ohishi W, and Yagi K. Anal . Biochem (1979) 95 , 351**
- **EL-Aaser A.A,and Saleh T.R. (unpublished)**

SAMPLE PREPARATION

Tissue Homogenate

1. **Prior to dissection, perfuse tissue with a PBS (phosphate buffered saline) solution, pH 7.4 . containing 0.16 mg / ml heparin to remove any red blood cells and clots.**
2. **Homogenize the tissue in 5 – 10 ml cold buffer (i , e , 50 mM potassium phosphate, pH 7.5.) per gram tissue.**
3. **Centrifuge at 4000 r.p.m for 15 minutes.**
4. **Remove the supernatant for assay and store on ice. If not assaying on the same day , freeze the sample at - 80°C. The sample will be stable for at least one month.**

Plasma

1. **Collect blood using an anticoagulant such as heparin or citrate .**
2. **Centrifuge the blood at 3,000 rpm for 10 min. at 4°C. pipette off the top yellow plasma layer without disturbing the white buffy layer. Store plasma on ice until assaying or freeze at -80°C. The plasma sample will be stable for at least one month.**

Serum

1. **Collect blood without using an anticoagulant. Allow blood to clot for 30 min. at 25°C.**
2. **Centrifuge the blood at 4,000 rpm for 15 min. at 4°C. pipette off the top yellow serum layer without disturbing the white buffy layer. Store serum on ice if not assaying the same day, freeze at -80°C. The sample will be stable for at least one month.**

Urine

Collect urine in a clear beaker or flask and store on ice. If not assaying the same day, freeze at -80°C.

BIODIAGNOSTIC
DIAGNOSTIC AND RESEARCH REAGENTS

LIPID PEROXIDE
(Malondialdehyde)

Colorimetric Method

+4 to +8 ºC 25 Tests

CAT. No. MD 25 29

FOR RESEARCH USE ONLY

REAGENTS

R1	Standard	**5 ml**
R2	Chromogen	**50 ml**

CONTACTS

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