Pioneer Research Anahita Company
No.157
Danesh street
Technology Park Pardis
Tehran/ Iran

DATA SHEET
Versions: 01
Revision date: 25/11/2023

1. Identification

Product name: MDA Assay Kit

Reactions: 100 rxns

Cat. No.: PRA- NOB

2. Description

The assessment of malondialdehyde (MDA) content has been a longstanding practice as a marker for lipid peroxidation in research pertaining to oxidative stress and redox signaling. This is especially evident in studies that center around plant responses to both abiotic and biotic stresses.

3. Kit Contents

Component	Cat. no
Solution A	PRA-TOPA
Solution B	PRA-TOPB
Solution C	PRA- ToPC
Standard	PRA- ToPS

4. Storage specifications

MDA Assay Kit components can be stored at room temperature.

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5. Applications

Lipid peroxidation assays serve as vital tools for evaluating oxidative damage in cells under pathophysiological conditions, providing a means to gauge the effectiveness of antioxidants.

6. Assay Procedure

Preparation of Solutions

1. Add 10 cc of distilled water to Solution A and mix well.
2. Add 10 cc of distilled water to Solution B and mix well.
3. The composition of Solution A and B is stable for one month after adding water.

Preparation of Working Solution

- Prepare the working solution as needed.
- Mix the A/B/C solution in a ratio of 2/1/1.
  For example, mix 2 cc of Solution A with 1 cc of Solution B and 1 cc of Solution C.
- The working solution has a stability of only one hour.

Preparation of Standard Solution

1. Dilute 20.5 µl of the standard solution in the kit with 1 ml of 96% ethanol.
2. Add to 49 ml of distilled water.
3. The current solution contains 500 µM of standard.
4. For the main standard, prepare a 50 µM solution by diluting the obtained standard solution at a ratio of 1/10.
   Dissolve 200 µl of the standard with 800 µl of distilled water.
5. Prepare subsequent standards at dilutions of 10, 5, 2.5, 1.25, 0.62, 0.31, and 0.15 µM.

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Test Method

1. Add 200 µl of the working solution to all microtubes related to standards, blanks, and samples.
2. For the negative control, add 100 µl of standards and 100 µl of distilled water; for the sample, add 100 µl of the sample to the corresponding vial.
3. Incubate the microtubes for 60 minutes at 90°C.
4. Incubate for 10 minutes at room temperature until the temperature of the samples reaches room temperature.
5. Centrifuge the microtubes at 1000 RPM for 10 minutes.
6. Add 150 µl of supernatant of standards, blanks, and samples to ELISA wells and immediately read at 535 nm.

Interpretation of Results.

- After collecting the OD of the standards, plot the curve as shown in the standard sample and calculate the sample value using the standard curve and the formula y=ax+b.
- To calculate the MDA concentration as nM/mg pr or nmol/mg pr, please divide the MDA amount by the protein concentration.

7. Safety

- The solutions used in this kit are dangerous for human tissue.
- Work with gloves and protective eye wear.
- In case of contact with skin, eyes, etc., wash with plenty of water.
- Seek medical attention promptly for additional treatment.

8. Quality Certifications

9. Further information

This product is developed, designed, and sold exclusively only for research purposes use. The product was not tested for use in diagnostics or for drug development, nor is it suitable for administration to humans or animals.

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10. Other Kits

1. Total Antioxidant Activity Test Kit (FRAP)
2. Catalase activity testing kit
3. Kit to check the amount of NO
4. FRAP Assay test kit
5. Paraoxonase-1 activity testing kit
6. Protein carbonyl testing kit

NOTE

All products have been produced by Karmania Pars Gene company in Iran.