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: SOD activity assay kit

Reactions: 100 rxns

Cat. No.: PRA- SOD

2. Description

SOD, an essential antioxidant protein, plays a vital role in neutralizing harmful superoxide anions. It catalyzes their conversion into hydrogen peroxide, subsequently detoxified into oxygen and water by enzymes like catalase or glutathione peroxidase. Notably, SOD doesn't bind to cell membranes and is swiftly excreted by the kidneys.

3. Kit Contents

Component	Cat. no
Solution A	PRA-TOPA
Solution B	PRA- ToPB
Standard	PRA- ToPS

4. Storage specifications

The Total protein Assay Kit components can be stored at room temperature.

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5. Applications

SOD has undergone extensive research and finds application in various domains, serving roles in anti-inflammatory, antitumor, radiation protection, and antisenility applications.

6. Assay Procedure

Preparation of Working Solution:

1. Mix solution A with solution B at a ratio of 1:50 (e.g., 10 µl of solution A with 490 µl of solution B).

2. The prepared working solution remains stable for 24 hours in a dark place.

Preparation of Standards:

1. Label six sterile microtubes as standard 1, 2, 3, 4, 5, and 6.

2. Add 450 µl of buffer (where your protein is dissolved) to the first microtube and 250 µl to the remaining microtubes.

3. Add 50 µl of protein to the first microtube and mix well, creating a 1000 µg/ml standard.

4. Add 250 µl of the first standard (1000 µg/ml) to the second standard, mixing well to prepare a 500 µg/ml standard. Repeat the process for subsequent standards, achieving concentrations of 250, 125, 62.5, and 31.25 µg/ml.

Protocol:

1. Allow the kit components to reach room temperature for 20 minutes before commencing the test.

2. In separate microtubes, add 25 µl of sample and standards, and 25 µl of distilled water as a control.

3. Add 225 µl of the working solution to all microtubes and incubate at 60°C for 60 minutes.

4. Add 100 µl of the solution to all wells and measure at a wavelength of 562 nm. If 562 nm is not available, readings at 545 nm are acceptable.

5. To calculate the protein amount in the sample, subtract the OD of the blank from the OD of the samples and standards. Then, determine the protein amount by constructing a standard graph.

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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.

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.