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: Ferric Reducing Ability of Plasma (FRAP) assay kit

Reactions: 100 rxns

Cat. No.: PRA- FRAP

2. Description

The Ferric Reducing Ability of Plasma (FRAP) assay is employed for quantifying antioxidant power. This assay relies on the reduction of a Fe3+ complex of tripyridyl triazine Fe (TPTZ)3+) to Fe(TPTZ)2+, which exhibits an intense blue color at low ph. Excess Fe3+ is employed, and Fe (TPTZ)2+ becomes the rate-limiting factor in the reaction.

3. Kit Contents

Component	Cat. no
Solution A	PRA-sa
Solution B	PRA-sb
Solution C	PRA-sc
Solution D	PRA-sd
Solution E	PRA-se
Standard	PRA- StdFRAP

4. Storage specifications

FRAP Assay Kit components can be stored at room temperature.

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5. Applications

The FRAP assay finds frequent application in measuring the antioxidant capacity of various substances, including foods, beverages, and nutritional supplements that contain polyphenols.

6. Assay Procedure

Preparation of Solutions:

1. Solution A:

- Add 2.5 ml of solution E to the bottle of solution A.
- Mix well.

2. Solution B:

- Add 2.5 ml of deionized distilled water (DDW) to the bottle of solution B.
- Mix well.

3. Solution C:

- Add 15 ml of Solution D to the bottle of solution C.
- Mix well.

The prepared solutions A, B, and C are stable for 3 months in a dark place.

Preparation of Working Solution:

- Mix solutions A, B, and C immediately before the test in a ratio of 1/10 to create a working solution.
- For example, to examine 2 samples, prepare 300 µl of working solution as follows: mix 25 µl of solution A, 25 µl of solution B, and 250 µl of solution C.

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- The mixture is only stable for 30 minutes and should be prepared immediately before testing.

Preparation of Standards:

- Add 25 ml of deionized distilled water (DDW) to the standard bottle and mix well to obtain a 10 mM Fe2+ solution.

- Mix 2 ml of the standard containing 10 mM Fe2+ with 8 ml of distilled water to create a 2 mM Fe2+ standard.

Std	Concentrations (Fe^{2+})	H_2O	Fe^{2+} 2mm
1	1 mM (1000 µM)	500 µL	500 µl
2	0.7 mM (700 µM)	650 µL	350 µl
3	0.5 mM (500 µM)	750 µL	250 µl
4	0.3 mM (300 µM)	850 µL	150 µl
5	0.2 mM (200 µM)	900 µL	100 µl
6	0.1 mM (100 µM)	950 µL	50 µl

Test Method:

1. Keep the kit components at room temperature for 20 minutes before starting the test.

2. Add 10 microliters of the sample, standards, and distilled water respectively to the wells of the ELISA plate corresponding to the sample, standards, and blank.

3. Add 140 µl of the working solution to all wells and mix for 30 seconds.

4. Incubate the plate at 37°C for 5 minutes and then measure the OD of the samples along with the standards and the blank at a wavelength of 593 nm.

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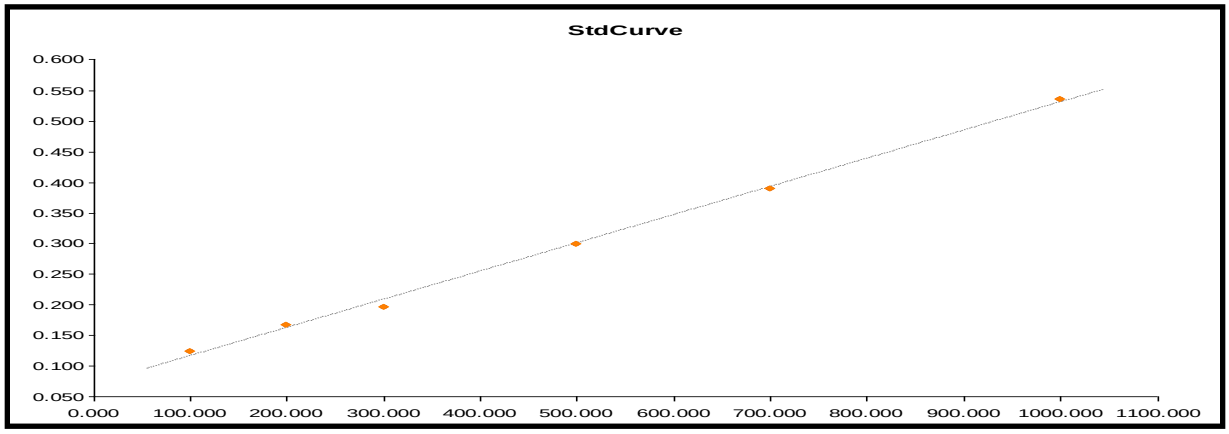

Sample standard curve. Please draw the standard curve yourself and do not use the curve.

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.