

Ferric Reducing Antioxidant Power Assay Kit | FRAP assay kit

OxiSelect Ferric Reducing Antioxidant Power (FRAP) Assay Kit

CATALOG #
AAA11440

PRODUCT SYNONYMS

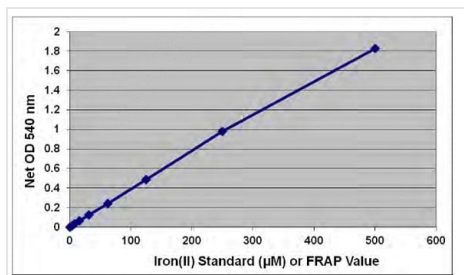
Ferric Reducing Antioxidant Power; OxiSelect Ferric Reducing Antioxidant Power (FRAP) Assay Kit; FRAP assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the kit components at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for FRAP assay kit

Background: Oxidative stress is a physiological condition where there is an imbalance between concentrations of reactive oxygen species (ROS) and antioxidants. However, excessive ROS accumulation will lead to inflammation and cellular injury, such as damage to DNA, proteins, and lipid membranes. The cellular damage caused by ROS has been implicated in the development of many disease states, such as cancer, diabetes, cardiovascular disease, atherosclerosis, and neurodegenerative diseases. Under normal physiological conditions, cellular ROS generation is counterbalanced by the action of cellular antioxidant enzymes, macro or micro molecules, as well as other redox molecules. Antioxidants are molecules that contain one or more free electrons that can be donated to stabilize ROS. Antioxidants include both hydrophilic and lipophilic molecules for metabolizing ROS. These may be localized transiently within different tissues or cells. Because of their potential harmful effects, excessive ROS must be promptly neutralized and eliminated from the cells by this variety of antioxidant defense mechanisms. OxiSelect™ Ferric Reducing Antioxidant Power (FRAP) Assay Kit is a quantitative assay for measuring the antioxidant potential within various samples such as serum, plasma, urine, saliva, tears, tissue homogenates, cell extracts, and purified food or drug extracts. The assay is based on the highly-cited work of Benzie and Strain (ref. 1 and 2) in which iron reacts with a colorimetric probe to produce a blue product. The reaction is driven by the electron donating reducing power of antioxidants. The kit employs a ferrous iron standard which allows the user to determine the antioxidant content present within their sample. Each kit provides sufficient reagents to perform up to 200 assays, including standard curve and unknown samples. The FRAP assay offers a simple and efficient analytical method for assessing age, disease, diet, or other physiological changes to antioxidant status.

Principle of the Assay: The OxiSelect™ Ferric Reducing Antioxidant Power (FRAP) Assay Kit is a quantitative assay for measuring the antioxidant potential within a sample. Ferric iron (Fe^{3+}) is initially reduced by electron-donating antioxidants present within the sample to its ferrous form (Fe^{2+}). The iron-colorimetric probe complex develops a dark blue color product upon reduction which can be measured at 540-600 nm (see Figure 1). Samples can be compared to the iron standard for determining antioxidant potential. This assay is analytically sensitive to approximately 4 μM of Fe^{2+} iron equivalents, or a FRAP value of 2.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/frap-assay-kits/ferric-reducing-antioxidant-power/11440>