

Oxidative Stress Assay Kit (TAC / Thiol)

For more information : http://www.funakoshi.co.jp/exports_contents/80379 (TAC), 80388 (Thiol)

Total Antioxidant Capacity Assay Kit

Reactive Oxygen Species (ROS) can cause damage to biomolecules such as DNA, proteins or lipids, and thought to be related to the development for cancer, Parkinson's disease, Alzheimer's disease, atherosclerosis, etc.

To protect from such damages, organisms produce and ingest various antioxidants that interact with and neutralize ROS.

Measurement of Total Antioxidant Capacity (TAC) is used as an integrated index rather than the simple sum of measurable antioxidants.

Metallogenics' TAC assay kit is compatible with wide range of samples.

Features

- Rapid assay (Just 10 minutes)
- Simple Protocol
- No hazardous components such as cyanide or azide as preservative.
- Compatible with multi-species
- Samples : Serum, Plasma, Urine, Foods such as wine, beverage and tea
- 2 points calibration

Principle

Antioxidants in the samples reduce Cu^{2+} to Cu^+ . Cu^+ is chelated by bathocuproine and yields an orange colored complex.

TAC can be determined by measuring absorbance of the generated complex at wavelength 490 nm (430 nm to 510 nm).

Data

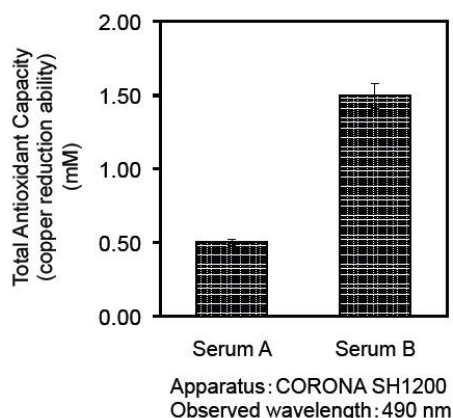


Figure : Measurement of TAC in bovine serum

(Note)

- Remove insoluble substances from serum and plasma samples by filtration or centrifugation.
- Hemolyzed sample cannot be used.
- Do not use EDTA as anticoagulant.
- Use same type of blood collection tubes when TACs in plasma samples are compared. (Some anticoagulant has reduction ability.)
- Fresh samples must be assayed. If you want to store the samples, keep them in -20°C and do not repeat freeze / thawing cycle that damage the samples.

Product Information

[Manufacturer : AKJ]

Product Name	Size	Code	Storage
Total Antioxidant Capacity Assay Kit (200 tests)	1 kit	AC01DE	4°C

Thiol Detection Assay Kit

In living organisms, thiol groups exist as free cysteine, glutathione, cysteine residues in proteins (such as albumin). Thiol groups attached to a carbon atom have a strong reducing ability, then plays an important role for the antioxidant capacity to scavenge ROS. According to a report, patients of various diseases exhibit low level of serum protein thiols. Furthermore, the oxidations of protein thiol groups contribute to the tertiary or quaternary structure of a protein.

Metallogenics' thiol detection assay kit (Ellman's method) measures total thiol groups in the sample. Ellman's reagent (DTNB: 5,5'-Dithiobis(2-nitrobenzoic acid)) reacts with thiol groups in the sample, and yields TNB2- (5-Mercapto-2-nitrobenzoic acid), showing yellow color. The intensity of the color is proportional to the thiol groups in the sample. Thiol concentration can be calculated by measuring absorbance of TNB2- at wavelength 412 nm (380 nm to 440 nm).

Features

- Rapid assay (Just 10 minutes)
- Simple Protocol
- No hazardous components such as cyanide or azide as preservative.
- Compatible with multi-species
- Samples : Serum, Plasma
- 2 points calibration

Data

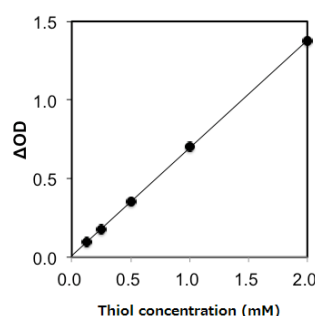


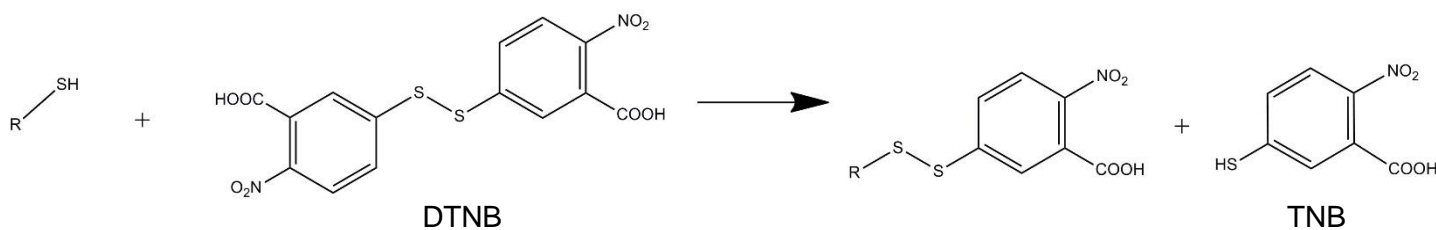
Figure : Standard curve

Principle

Ellman's method

Ellman's reagent (DTNB:5,5'-Dithiobis (2-nitrobenzoic acid)) reacts with thiol group and produces 5-Mercapto-2-nitrobenzoic acid (TNB).

Measure absorbance at $\lambda_{max}=412$ nm and quantify thiol concentration.



Product Information

[Manufacturer : AKJ]

Product Name	Size	Code	Storage
Thiol Detection Assay Kit (100 tests)	1 kit	TH01DE	4°C

NOTE

- ※ All products here are research use only, not for diagnostic use.
- ※ Specs might be changed for improvement without notice.

- ※ Company name and product name are trademark or registered mark.
- ※ Please contact your local distributors for orders, quote request and inquiry.

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