

Antioxidant Assay Kit

Total Antioxidant Power Kit (Replaces TA01)

CATALOG #
AAA71828

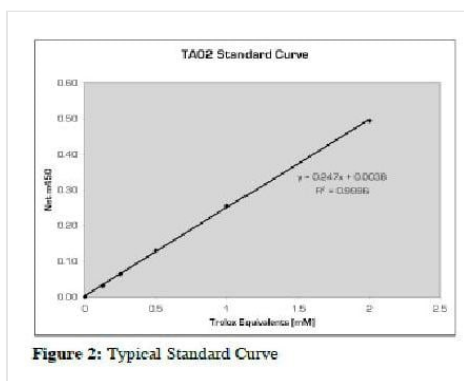
PRODUCT SYNONYMS

Antioxidant; Total Antioxidant Power Kit (Replaces TA01); Total Antioxidant Power Kit; Antioxidant assay kit

PRODUCT SPECIFICATIONS

Sequence Length	207
Preparation and Storage	1. Store the components of this kit at the temperatures specified on the labels. 2. Unopened reagents are stable until the indicated kit expiration date. 3. Aliquot the Trolox Standard after reconstitution and freeze at At -80 degree C.

IMAGES



Application Data

Scheme I: Sample Plate Layout

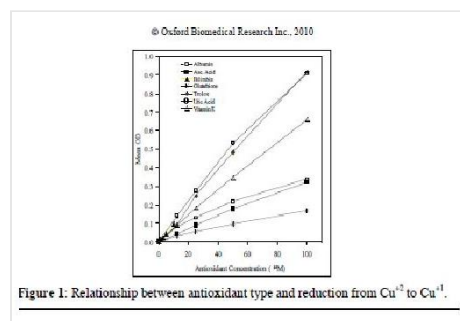
	1	2	3	4	5	6	7	8	9	10	11	12
A	S0	S0	U3	U3	U11	U11	U19	U19	U27	U27	U35	U35
B	S1	S1	U4	U4	U12	U12	U20	U20	U28	U28	U36	U36
C	S2	S2	U5	U5	U13	U13	U21	U21	U29	U29	U37	U37
D	S3	S3	U6	U6	U14	U14	U22	U22	U30	U30	U38	U38
E	S4	S4	U7	U7	U15	U15	U23	U23	U31	U31	U39	U39
F	S5	S5	U8	U8	U16	U16	U24	U24	U32	U32	U40	U40
G	U1	U1	U9	U9	U17	U17	U25	U25	U33	U33	U41	U41
H	U2	U2	U10	U10	U18	U18	U26	U26	U34	U34	BLK	BLK

Application Data

Table 1: Standard Curve Preparation

Standard	Trolox Conc. (mM)	Vol. of Deionized Water (μL)	Transfer Volume (μL)	Transfer Source	Final Volume (μL)
S5	2.0	-	2000	2 mM Stock	1500
S4	1.0	500	500	S5	500
S3	0.5	500	500	S4	500
S2	0.25	500	500	S3	500
S1	0.125	500	500	S2	1000
S0	0	500	-	-	500

Application Data



Application Data

ADDITIONAL INFORMATION

Related Product Information for Antioxidant assay kit	Principle of the Assay: The reduction potential of the sample or standard effectively converts Cu⁺² to Cu⁺¹, thus changing the ion's absorption characteristics. This reduced form of copper will selectively form a stable 2:1 complex with the chromogenic reagent with an absorption maximum at ca. 450 nm¹²⁻¹⁶. A known concentration of Trolox is used to create a calibration curve, with the data being expressed as mM Trolox equivalents or in uM copper reducing equivalents. A study was performed to evaluate the correlation between the concentration of principal antioxidants in human serum and the value obtained for total antioxidant power using this method with the results presented in Figure 1. Multivariate analysis of the obtained results yields a very high significance. The results obtained with the Total Antioxidant Power Assay for a series of serum samples were also compared to the resistance to oxidation of the serum lipids in these samples. The results of this study also show that these two parameters are highly correlated. The higher the total antioxidant power, the more protected the serum lipids are from oxidation. Background/Introduction: Oxidative stress has been implicated in a number of diseases such as atherosclerosis¹, chronic inflammatory disease², chronic renal failure³, and cancer⁴. It is a condition where an imbalance exists between the production of reactive oxidizing species and the body's ability to neutralize these intermediates, resulting in cellular damage. The body has designed several physiological responses to oxidative stress including counterbalances⁵ such as enzymes and variously functionalized molecules (see examples below) that effectively neutralize these damaging species. These antioxidants can be either water or lipid soluble, and are localized transiently throughout various tissues, cells and cell types. Given the multiplicity of antioxidant pathways, their centrality in the prevention of oxidant stress, and the influences of lifestyle and nutritional supplements on an individual's antioxidant capacity, it is important to be able to quantitatively measure the total antioxidant capacity or antioxidant power with biological specimens⁶⁻¹¹.
References	1. Brook, R.; (2008) Clin. Sci. (Lond). 115:175-187 2. Cerutti, P. and Trump, B.; (1991) Cancer Cell 3:1-7 3. Cottone, S., et al.; (2008) J. Nephrol. 21:175-179 4. Trachootham, D., et al.; (2008) Antioxid. Redox Signal. 10:1343-1374 5. Frei, B., et al.; (1992) Molecular Biology of Free Radical Scavenging System 23-45 6. Cieniewicz, J., et al.; (2008) J. Allergy Clin. Immunol. 122:456-468 7. Kieth, M., et al.; (1998) J. Am. Coll. Cardio. 31:1352-1362 8. Van-Zoeren-Grobbe, et al.; (1997) Acta Pediatrics 86:1356-1362 9. Allard, J.P., et al.; (1998) Am. J. Clin. Nutr. 67:143-147 10. Santini S.A., et al.; (1997) Diabetes 46:1853-1858 11. Fatokun, A., Stone, T. and Smith, R.; (2008) Front. Biosci. 13:3288-3311 1. Apak, R., et al.; (2004) J Agric Food Chem 52:7970-7981 1. Apak, R., et al.; (2005) Free Radic Res 39:949-961 1. Apak, R., et al.; (2007) Molecules 12:1496-1547 1. Apak, R., et al.; (2008) Microchim Acta 160:413-419 1. Apak, R., et al.; (2008) Anal. Chim. Acta 630:28-39

NCBI AND UNIPROT INFORMATION

NCBI GI #	297543465
NCBI Official Full Name	antioxidant

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/assay-kits/antioxidant/71828>