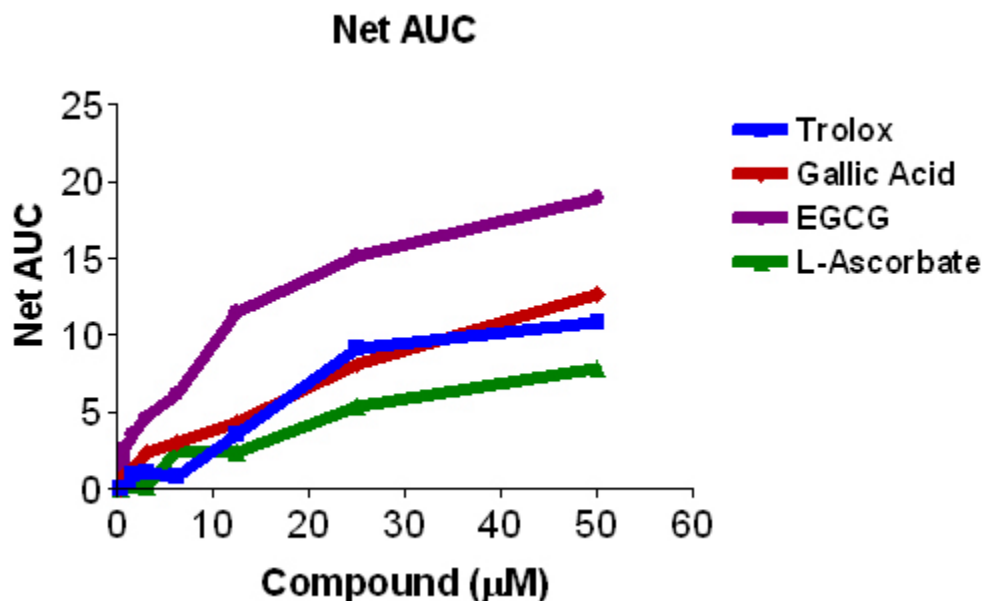


### ORAC Antioxidant Assay Kit

Free radicals and reactive oxygen species (ROS) are highly reactive molecules that are generated by normal cellular processes, environmental stresses, and UV irradiation. ROS react with cellular components, damaging DNA, carbohydrates, proteins, and lipids causing cellular and tissue injury. Excess production of reactive oxygen species can also lead to inflammation, premature aging disorders, and several disease states, including cancer, diabetes, and atherosclerosis. Organisms have developed complex antioxidant systems to protect themselves from oxidative stress, however, excess ROS can overwhelm the systems and cause severe damage.

The Zen-Bio ORAC (Oxygen Radical Absorbance Capacity) Antioxidant Assay Kit can be used to determine the total antioxidant capacity of biological fluids, cells, and tissue. It can also be used to assay the antioxidant activity of naturally occurring or synthetic compounds for use as dietary supplements, topical protection, and therapeutics. The assay measures the loss of fluorescein fluorescence over time due to peroxy-radical formation by the breakdown of AAPH (2,2'-azobis-2-methyl-propanimidamide, dihydrochloride). Trolox [6-Hydroxy-2,5,7,8-tetramethylchroman-2-carboxylic acid], a water soluble vitamin E analog, serves as a positive control inhibiting fluorescein decay in a dose dependent manner. The ORAC assay is a kinetic assay measuring fluorescein decay and antioxidant protection over time. The antioxidant activity in biological fluids, cells, tissues, and natural extracts can be normalized to equivalent Trolox units to quantify the composite antioxidant activity present. This assay measures antioxidant activity by hydrogen atom transfer and when combined with Zen-Bio's ABTS antioxidant assay kit, provides a comprehensive analysis of a test sample's antioxidant activity.



#### Effects of antioxidants in ORAC assay

Trolox, Sodium L-ascorbate, Epigallocatechin gallate (EGCG), and Gallic acid were tested for their antioxidant activity in the ORAC antioxidant assay.

#### Ordering Information

Item	Unit	Catalog #
ORAC Antioxidant Assay Kit	Kit	AOX-2

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