

OxiSelect HORAC Activity Assay Kit

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CATALOG #
AAA44591

PRODUCT SYNONYMS

OxiSelect HORAC Activity; OxiSelect HORAC Activity Assay Kit; OxiSelect HORAC Activity assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receiving, store the HORAC Fluorescein Probe (100X) and Antioxidant Standard at -20 degree C and the Fenton Reagent, Hydroxyl Radical Initiator and Assay Diluent at 4 degree C. Aliquot as necessary to avoid multiple freeze/thaw cycles. Store all remaining kit components at room temperature until their expiration dates.

IMAGES

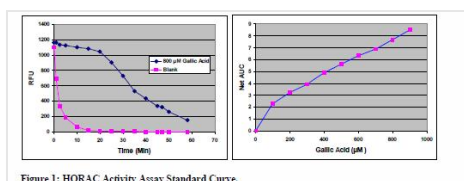
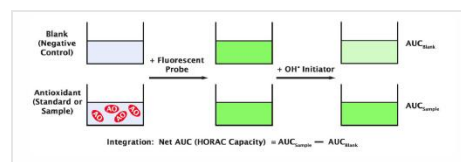


Figure 1: HORAC Activity Assay Standard Curve.



Application Data

ADDITIONAL INFORMATION

Related Product Information for OxiSelect HORAC Activity 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 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 and other redox molecules. Because of their potential harmful effects, excessive ROS must be promptly eliminated from the cells by this variety of antioxidant defense mechanisms. Antioxidants include both hydrophilic and lipophilic molecules for metabolizing ROS. Although the products of ROS-induced oxidative stress are extensively used to monitor the effects of oxidative stress, it is also important to evaluate the antioxidant capacity of biological fluids, cells, and extracts. The Hydroxyl Radical Antioxidant Capacity (HORAC) Assay is a classic tool for measuring the antioxidant capacity of biomolecules from a variety of samples. The HORAC Activity Assay is based on the oxidation of a fluorescent probe by hydroxyl radicals by way of a hydrogen atom transfer (HAT) process. Hydroxyl radicals are produced by hydroxyl radical initiator and fenton reagent, which quenches the fluorescent probe over time. Antioxidants present in the assay work to block the radical hydroxyl oxidation of the fluorescent probe until the antioxidant activity in the sample is depleted. The remaining hydroxyl radicals destroy the fluorescence of the fluorescent probe. This assay continues until completion, which means both the antioxidant's inhibition time and inhibition percentage of free radical damage is a single value. The sample antioxidant capacity correlates to the fluorescence decay curve, which is usually represented as the area under the curve (AUC). The AUC is used to quantify the total hydroxyl radical antioxidant activity in a sample and is compared to a gallic acid antioxidant standard curve. OxiSelect HORAC Activity Assay is a fast and reliable kit for the direct measurement of HORAC antioxidant capacity from cell lysate, plasma, serum, tissue homogenates, and food extracts. Each kit provides sufficient reagents to perform up to 192 assays, including blanks, antioxidant standards and unknown samples. The assay is designed for use in single plate microplate readers as well as readers with high-throughput capabilities. Please read the complete kit insert prior to performing the assay.

Product Categories/Family for
OxiSelect HORAC Activity assay kit

[Oxidative Stress/Damage](#); [Antioxidant Assays](#); [Antioxidant Capacity Assays](#); [HORAC \(Hydroxyl Radical Antioxidant Capacity\) Assay](#)

References

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1. Gardner, A. W. et al. (2014). Impaired Vascular Endothelial Growth Factor A and Inflammation in Patients with Peripheral Artery Disease. *Angiology*. 65:683-690.
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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.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/assay-kits/oxiselect-horac-activity/44591>