

OxiSelect Flavonoid Assay Kit

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CATALOG #

AAA44671

PRODUCT SYNONYMS

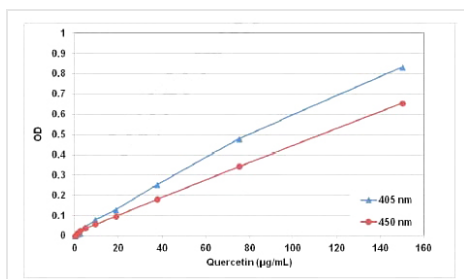
OxiSelect Flavonoid; OxiSelect Flavonoid Assay Kit; OxiSelect Flavonoid assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store the Quercetin Standard at -20 degree C. Store all other components at room temperature.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for OxiSelect Flavonoid assay kit	Principle of the Assay: The OxiSelect™ Flavonoid Assay Kit is a quantitative assay for measuring the flavonoid content within a sample. A priming solution reacts with the flavonoid ring to enhance the reactivity and detection of the flavonoid. Next, a solution of aluminum ions (Al3+) is added, which complexes with the hydroxyl and keto groups of the flavonoid structure. Finally a hydroxide group stabilizes the ring chemistry and enhances color development. Color development may occur at all stages of the reaction due to the nature of the flavonoids in the sample. After incubating for a few minutes, the sample absorbance is measured at 405-450 nm. Samples can be compared to the quercetin standard for determining flavonoid content. This assay is analytically sensitive to approximately ~2 ug/mL of Quercetin Equivalents. Background/Introduction: Flavonoids are an array of polyphenolic compounds containing a benzo-gamma-pyrone derivative that have shown to be involved in a number of pharmacological reactions. More than 5000 naturally occurring flavonoids have been found in plants, which are increasingly being researched due to their antioxidant, antibacterial, anti-inflammatory, and antiviral capabilities. Flavonoids are categorized into subgroups according to variations in their heterocyclic chemical structure. These predominant subgroups include flavonols, flavanols, flavanones, flavones, isoflavones, and anthocyanins. They share the base structure that incorporates two benzene rings connected by a heterocyclic pyran ring, which are labeled as A, B, and C below (Figure 1). The degree of variation between flavonoids is influenced by the pattern and level of prenylation, glycosylation, hydroxylation, and methylation. Ring substitution positions determine the chemical activity and variability between flavonoids. The substitution, configuration, and number of hydroxyl groups will influence the antioxidant activity of metal scavenging and chelation (Figure 2). Many flavonoids are hydroxylated at the 3, 5, 7, 2, 3',4', and 5' positions. Flavonoid activity and bioavailability are structure-dependent, and although they may exist in their aglycone free unbound state, they predominantly exist as 3-O-glycosides, methylated derivatives, and polymers. Glycosidic linkages usually occur at the 3 or 7 position. While aglycans can be absorbed intestinally, glycosidic forms must be converted to aglycans first. Flavonoids act by diminishing Reactive Oxygen Species (ROS) through metal scavenging or enzyme inhibition, chelating trace elements that generate free radicals, and upregulating antioxidant defense systems. The established anti-inflammatory, antiviral, anticancer, hepatoprotective characteristics of flavonoids are creating new areas of research and drug development. Further research is needed in flavonoid structure and function relationships in order to understand and utilize their therapeutic characteristics. OxiSelect™ Flavonoid Assay Kit is a quantitative assay for measuring the flavonoid content within various samples such as plasma, urine, plant tissue homogenates, cell extracts, and purified food or drug extracts. The assay can be used for assessing purified or mixtures of flavonoids. The reaction is driven by the scavenging and chelating power of the basic flavonoid structure as well as the hydroxyl and ketone groups that define it. The kit employs quercetin as a standard, which allows the user to determine the flavonoid content present within their sample and express it as Quercetin Equivalents (QE). Quercetin is an ubiquitous flavonoid found in nature from the flavonol subclass category. Each kit provides sufficient reagents to perform up to 200 assays, including standard curve and unknown samples. Due to the variability of flavonoids within samples, the assay may be measured at different wavelengths to determine flavonoid content. The OxiSelect™ Flavonoid Assay Kit offers a simple and efficient analytical method for assessing flavonoid content of a sample in a microplate format.
Product Categories/Family for OxiSelect Flavonoid assay kit	Oxidative Stress/Damage; Antioxidant Assays

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/oxiselect-flavonoid/44671>