

Taurine Assay Kit

Taurine Assay Kit

CATALOG #
AAA44648

PRODUCT SYNONYMS

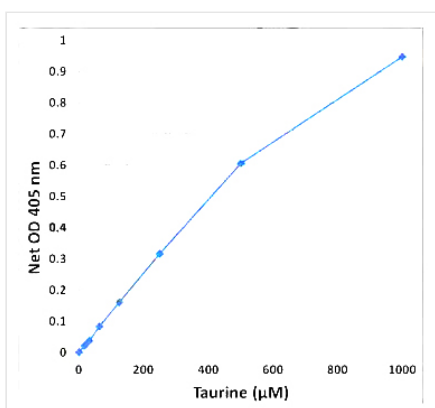
Taurine; Taurine Assay Kit; Taurine assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the Taurine Standard, Taurine Dioxygenase, and Developing Solution at -20 degree C. Store the remaining components at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Taurine assay kit	Background: Taurine, also known as 2-aminoethanesulfonic acid, is a small molecule found in various types of animal tissues. Taurine is a large component of bile and represents almost 0.1% of total human body weight. In contrast to most biologically occurring acids that contain the more weakly acidic carboxyl group, taurine is a sulfonic acid, and is not technically an amino acid due to its lacking the carboxyl group. Taurine is biochemically synthesized from cysteine through a series of enzymatic reactions in the pancreas: the thiol group of cysteine is oxidized to cysteine sulfinic acid by cysteine dioxygenases, cysteine sulfinic acid is decarboxylated by sulfinoalanine decarboxylase to form hypotaurine, and hypotaurine is oxidized to form taurine by hypotaurine dehydrogenase. Taurine has many fundamental functions in mammalian biology. Taurine is conjugated to chenodeoxycholic acid and cholic acid forming the bile salts sodium taurochenodeoxycholate and sodium taurocholate. Taurine's sulfonic acid group has a low pKa which keeps this moiety negatively charged in the intestinal tract and therefore improves the detergent properties of the bile conjugate. Taurine is also important for adipose tissue and cardiovascular function as well as maturation and function of central nervous system, skeletal muscle, and the retina. Taurine has been associated with many physiological phenomena including inhibition of neurotransmission, long-term potentiation in the striatum/hippocampus, stabilization of the membrane, inhibition of neutrophil/macrophage respiratory burst, adipose tissue regulation, calcium level regulation, osmotic shock recovery, prevention of glutamate excitotoxicity, and protection from epileptic seizures. Taurine Assay Kit is a simple colorimetric assay that measures the total amount of free taurine present in foods or biological samples in a 96-well microtiter plate format. Taurine found in conjugated molecules (primary bile acids) is not detected. Each kit provides sufficient reagents to perform up to 200 assays*, including blanks, taurine standards, background controls and unknown samples. Sample taurine concentrations are determined by comparison with a known taurine standard. The kit has a detection sensitivity limit of 15.6 uM taurine. Principle of the Assay: Taurine Assay Kit measures Taurine within food or biological samples. Taurine is oxygenated by taurine dioxygenase in the presence of cofactor into 1-hydroxy-2-aminoethanesulfonic acid which decomposes to aminoacetaldehyde and sulfite. The enzymatic reaction is terminated by the addition of EDTA (an inhibitor of taurine dioxygenase). The sulfite is then detected with a highly specific colorimetric thiol probe. Samples and standards are read with a standard 96-well colorimetric plate reader. Samples are compared to a known concentration of taurine standard within the 96-well microtiter plate format (Figure 1).
Product Categories/Family for Taurine assay kit	Metabolism Research; Lipoprotein Metabolism; Bile Acid 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.