

Glutamine Assay Kit

Glutamine Assay Kit (Colorimetric)

CATALOG #

AAA44697

PRODUCT SYNONYMS

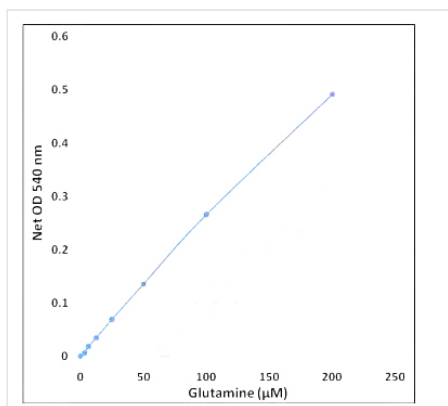
Glutamine; Glutamine Assay Kit (Colorimetric); Glutamine assay kit

PRODUCT SPECIFICATIONS

Detection Method

Colorimetric

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Glutamine assay kit	Background: Glutamine is a conditionally essential amino acid (needed from the diet under stress conditions) that is used in protein biosynthesis. Its side chain is almost identical to glutamic acid, except the carboxylic acid group on the side chain is replaced by an amide group. Glutamine is the most abundant free amino acid in human blood. Many food sources are rich in glutamine including protein-rich foods such as dairy products, eggs, fish, chicken, beef, as well as vegetables like beans, beets, cabbage, spinach, and carrots. In addition to protein synthesis/function, glutamine plays a role in acid-base balance in the kidney by producing ammonium, as a source of cellular energy next to glucose, and as a nitrogen donor for many anabolic processes such as the synthesis of purine. Cancer cells rely on glutamine as a nitrogen and carbon source. The importance of glutamine in certain tumors has been demonstrated. For example, blocking glutamine metabolism was shown to inhibit growth of several tumors such as breast, liver, kidney and T-cell lymphoblastic leukemia. The Glutamine Assay Kit is a simple assay for measuring glutamine levels in biological samples without any need for pretreatment. The kit has a detection sensitivity limit of 3.13 uM glutamine. Each kit provides sufficient reagents to perform up to 200 assays*, including standard curve and unknown samples. Principle of the Assay: The Glutamine Assay Kit is a sensitive quantitative colorimetric assay for glutamate. Glutaminase converts glutamine and H2O to glutamate and NH3. Glutamate oxidase converts glutamate to alpha-ketoglutarate and NH3 as well as H2O2. L-alanine and glutamate-pyruvate transaminase are also added to the reaction in order to regenerate glutamate and H2O2. As a result, multiple rounds of the reaction occur which results in significant amplification of H2O2 production. The H2O2 is then detected with a highly specific colorimetric probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples and standards are incubated for 30 minutes and then read with a standard 96-well colorimetric plate reader (Figure 1). Samples are compared to a known concentration of glutamine standard within the 96-well microtiter plate format.
Product Categories/Family for Glutamine assay kit	Metabolism Research; Amino Acid Metabolism; Glutamine Assay Kit (Colorimetric)

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/glutamine/44697>