

Ammonia Assay Kit

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CATALOG #

AAA44653

PRODUCT SYNONYMS

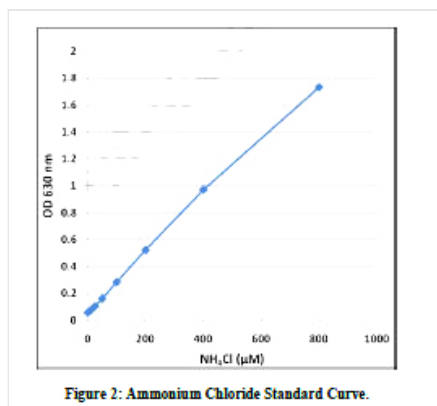
Ammonia; Ammonia Assay Kit; Ammonia assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Store at 4 degree C.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Ammonia assay kit	Principle of the Assay: Ammonia Assay Kit (Colorimetric) measures ammonia levels within urine or other biological samples. Samples are compared to a known concentration of ammonium chloride standard within a 96-well microtiter plate format. Samples and standards react with a chromogen in alkali solution to produce a blue-green colored product. After 30 minutes, the plate is read with a standard 96-well spectrophotometric microplate reader at an optical density between 630 nm and 670 nm (Figure 2). Higher OD values correlate with high ammonia concentrations. Sample ammonia concentrations are determined by comparison with the known ammonium chloride standards. The standard curve is linear up to 800 uM ammonia and the kit has a sensitivity of 12.5 uM ammonia. Background: Ammonia is a compound composed of nitrogen and hydrogen (formula NH_3). It is a common waste product in aquatic organisms, and serves as a nutritional staple of terrestrial organisms by functioning as a food/fertilizer precursor. Approximately 88% of ammonia is used around the world as fertilizer, anhydrously or as its salts or solutions. Ammonia is a building block for the synthesis of many pharmaceutical products as well as commercial cleaning products. Ammonia can be used to synthesize compounds such as ethanolamine, ethyl carbamate, ammonium perchlorate, ammonium nitrate, formamide, dinitrogen tetroxide, alprazolam, hexamethylenetetramine, and ammonium bicarbonate. In certain organisms, ammonia is synthesized from nitrogen found in the air by nitrogenase enzymes using a process called nitrogen fixation. Ammonia is also a resulting product of amino acid deamination catalyzed by enzymes such as glutamate dehydrogenase 1. Ammonia is commonly excreted in aquatic animals, while in humans ammonia is converted to the less toxic molecule urea. Urea is one of the main components of urine. Many birds, reptiles, and insects excrete nitrogenous waste as uric acid. Ammonia also functions in both normal and abnormal animal physiology: it is made by normal amino acid metabolism mechanisms and is toxic in high concentrations. The mammalian liver converts ammonia to urea through a series of enzymatic reactions called the urea cycle. In liver dysfunctions such as cirrhosis, elevated amounts of ammonia in the blood may result (hyperammonemia). At the same time, defects in the enzymes responsible for the urea cycle, such as ornithine transcarbamylase, lead to high ammonia levels. Hyperammonemia contributes to the symptoms of hepatic encephalopathy such as confusion and coma. In addition high ammonia levels can cause neurologic diseases observed in people with urea cycle defects and organic acidurias. Ammonia Assay Kit (Colorimetric) is based on a modified version of the Berthelot reaction. Ammonia reacts with an alkaline reagent to produce a blue-green colored product that can be measured with a standard spectrophotometric plate reader at an optical density between 630-670 nm. Each kit provides sufficient reagents to perform up to 100 assays, including blanks, ammonia standards and unknown samples.
Product Categories/Family for Ammonia assay kit	Metabolism Research; Renal Function 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/ammonia/44653>