

Lysine Assay Kit

Lysine Assay Kit (Colorimetric)

CATALOG #
AAA44675

PRODUCT SYNONYMS

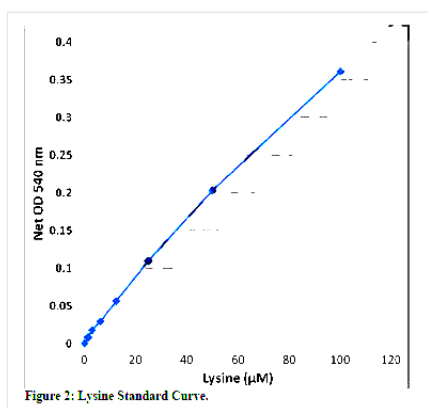
Lysine; Lysine Assay Kit (Colorimetric); Lysine assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the Lysine Oxidase at -80 degree C. Store all other components at -20 degree C. The Colorimetric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Lysine assay kit	Principle of the Assay: The Lysine Assay Kit measures lysine within food or biological samples. Lysine is converted by lysine oxidase into 6-amino-2-oxohexanoate plus ammonia and hydrogen peroxide. The hydrogen peroxide 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 read with a standard 96-well colorimetric plate reader. Samples are compared to a known concentration of lysine standard within the 96-well microtiter plate format (Figure 1). Background/Introduction: Lysine is an amino acid containing amine (-NH₂) and carboxyl (-COOH) functional groups, as well as a lysyl group side chain ((CH₂)₄NH₂). Lysine is an essential amino acid since it is not synthesized in the body and therefore must be obtained from food sources. Lysine is one of 22 natural amino acids that serve as fundamental building blocks for the production of proteins. Lysine also plays a part in protein structure: its side chain contains a positively charged group on one end connected to a long hydrophobic carbon tail. Because of these properties, lysine is considered relatively amphipathic and can be found either buried within the core of a protein or in solvent channels as well as on the exterior of proteins, where it can interact with the aqueous environment. Lysine can also aid in protein stabilization since its epsilon-amino group forms hydrogen bonds, salt bridges, and covalent interactions to form a Schiff base. In addition lysine is involved in epigenetic regulation by means of direct histone modification. There are several covalent histone modifications, often involving lysine residues located in the extending tail of histones. These modifications effect gene regulation, in which genes can be either activated or repressed. Lysine has also been shown to be involved in structural proteins of connective tissues, calcium homeostasis, and fatty acid metabolism. Lysine has been shown to play a role in the crosslinking between the three helical polypeptides of collagen, resulting in collagen stabilization and increased tensile strength. Lysine has also been suggested to play a role in calcium intestinal absorption and renal retention, and therefore might be involved in calcium homeostasis. Finally, lysine is a known precursor of carnitine, a molecule that transports fatty acids to the mitochondria to be oxidized resulting in energy release. The Lysine Assay Kit is a simple colorimetric assay that measures the amount of free lysine present in foods or biological samples in a 96-well microtiter plate format. Lysine found in polypeptide chains (peptides and proteins) are not detected. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, lysine standards and unknown samples. Sample lysine concentrations are determined by comparison with a known lysine standard. The kit has a detection sensitivity limit of 1.56 uM lysine.
Product Categories/Family for Lysine assay kit	Metabolism Research; Amino Acid Metabolism

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/lysine/44675>