

Guanosine Assay Kit

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CATALOG #
AAA44682

PRODUCT SYNONYMS

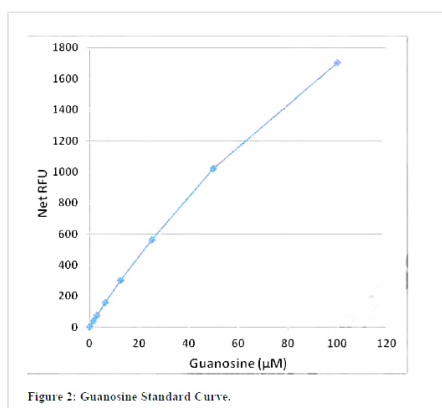
Guanosine; Guanosine Assay Kit; Guanosine assay kit

PRODUCT SPECIFICATIONS

Preparation and Storage

Upon receipt, store the 10X Assay Buffer at room temperature and store the rest of the kit at -20 degree C. The Fluorometric Probe is light sensitive and must be stored accordingly. Avoid multiple freeze/thaw cycles.

IMAGES



Standard Curve (Sample)

ADDITIONAL INFORMATION

Related Product Information for Guanosine assay kit	Principle of the Assay: The Guanosine Assay Kit measures total Guanosine within biological samples. Guanosine is converted to Guanine by PNP. Guanine is converted into xanthine by guanine deaminase. Then xanthine is converted to uric acid and hydrogen peroxide by xanthine oxidase. The resulting hydrogen peroxide is then detected with a highly specific fluorometric probe. Horseradish peroxidase catalyzes the reaction between the probe and hydrogen peroxide, which bind in a 1:1 ratio. Samples are compared to a known concentration of Guanosine standard within the 96-well microtiter plate format. Samples and standards are incubated for 15 minutes and then read with a standard 96-well fluorometric plate reader (Figure 1). Background/Introduction: Guanosine is a purine nucleoside made up of a guanine moiety attached to a ribose ring through a beta-N9- glycosidic bond. Guanosine can be converted to guanosine monophosphate (GMP), cyclic guanosine monophosphate (cGMP), guanosine diphosphate (GDP), and guanosine triphosphate (GTP) by the process of phosphorylation. These phosphorylated forms of guanosine play key roles in the processes of nucleic acid and protein synthesis, photosynthesis, muscle contraction, and intracellular signal transduction (specifically with cGMP). Guanosine is required in mRNA for an RNA splicing reaction. When a "self-splicing" intron excises itself from the mRNA message (requiring a 5' guanosine) cutting at both ends, re-ligating, and leaving just the exons on either side to be translated into a functional protein. The antiviral drug acyclovir, which is used in the treatment of herpes, and the anti-HIV drug abacavir are both structurally similar to guanosine. Guanosine was also used to make regadenoson, an A2A adenosine receptor agonist that is a coronary vasodilator and is often used in pharmacologic stress testing. Guanosine prevents Quinolinic Acid (QA) induced seizures about as well as the NMDA receptor antagonist, MK-801. Besides acting as an NMDA receptor agonist, QA decreases glutamate transport/uptake. It has been shown that Guanosine counteracts the QA-induced decrease in glutamate uptake as well as increases in glutamate release from the synapse. The Guanosine Assay Kit is a simple fluorometric assay that measures the amount of total Guanosine present in biological samples in a 96-well microtiter plate format. Each kit provides sufficient reagents to perform up to 100 assays*, including blanks, Guanosine standards, and unknown samples. Sample Guanosine concentrations are determined by comparison with a known Guanosine standard. The kit has a detection sensitivity limit of 1.6 uM Guanosine.
Product Categories/Family for Guanosine assay kit	Metabolism Research; Nucleic 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/guanosine/44682>