USER GUIDE

For Research Use Only. Not For Use In Diagnostic Procedures

Version 2.0

尿素检测试剂盒

Urea Assay Kit

Do not eat **Store at +2 to +8° C**

Cat.No. MUK2984 **Size :** 200 tests

Technical literature is available at: www.mesgenbio.com.
E-mail MesGen Technical Services if you have questions on use of this system: tech@mesgenbio.com

Description

Urea is primarily produced in the liver and secreted by the kidneys. MesGen Biotechnology Urea assay kit is designed to measure urea directly in biological samples without any pretreatment. The improved Jung method utilizes a chromogenic reagent that forms a colored complex specifically with urea. The intensity of the color, measured at 505 nm, is directly proportional to the urea concentration in the sample. The optimized formulation substantially reduces interference by substances in the raw samples.

Features

Sensitive and accurate. Linear detection range 1 ug/mL to 500 ug/mL urea in 96-well plate assay.

Simple and high-throughput. The procedure involves addition of a single working reagent and incubation for 5-10 min.

Improved reagent stability and versatility. The optimized formulation has greatly enhanced reagent and signal stability. Cuvet or 96-well plate assay.

Low interference in biological samples. No pretreatments are needed. Assays can be directly performed on raw biological samples i.e., in the presence of lipid and protein

Applications

Direct Assays: urea in serum, plasma, urine, milk, cell/tissue culture,
bronchoalveolar lavage (BAL) etc.

Drug Discovery/Pharmacology: effects of drugs on urea metabolism.

Environment: urea determination in waste water, soil etc.

KIT CONTENTS (200 tests in 96-well plates)

Reagent A: 24 mL

Reagent B: 24 mL

Standard: 1.0 mL (0.5 mg/mL)

Procedures

Reagent Preparation: Equilibrate reagents to room temperature. Prepare enough working reagent for all samples and standards by combining equal volumes of Reagent A and Reagent B shortly prior to assay. Use working reagent within 20 min after mixing.

Procedure for 96-well Plate

1. Serum and plasma samples can be assayed directly (*n* = 1). Urine samples should be diluted 50-fold in distilled water prior to assay (*n* =50). Transfer 5 µL water (blank), 5 µL standard (500 ug/mL) and 5 µL samples in duplicate into wells of a clear bottom 96-well plate. *For low urea samples (< 50 ug/mL), e.g. tissue/cell extract, BAL etc, transfer 50 µL water (blank), 50 µL* ***50 ug urea/mL*** *(the 50 mg/dL standard diluted 10X in water) and 50 µL samples in duplicate into separate wells. For culture medium containing phenol red, transfer 50 µL medium (blank), 50 µL* ***50 ug urea/mL*** *(the 500 ug/mL standard diluted 10X in medium) and 50 µL samples in duplicate into separate wells.*
2. Add 200 µL working reagent and tap lightly to mix.
3. Incubate 5-10 min at room temperature.
4. Read optical density at 505 nm.

Procedure for Cuvettes

Prepare samples as described for 96-well plate assay. Transfer 20 µL water, standard (500 ug/mL) and samples to appropriately labeled tubes. *For low urea samples, use 50 ug/mL standard and 200 µL instead of 20 µL*. Add 1000 µL working reagent and tap lightly to mix. Incubate 5-10 min and read OD505nm.

Calculation

Urea concentration (ug/mL) of the sample is calculated as

$$[\text{Urea}] = (\text{OD}_{\text{SAMPLE}} - \text{OD}_{\text{BLANK}}) / (\text{OD}_{\text{STANDARD}} - \text{OD}_{\text{BLANK}}) \times n \times [\text{STD}]\ (ug/mL)$$

OD**SAMPLE**, OD**BLANK** and OD**STANDARD** are OD values of sample, blank and standard, respectively.

n is the dilution factor. [STD] = 50 (*or 5 for low urea samples*), urea standard concentration (ug/mL).

Storage conditions

The kit is shipped at room temperature. Store all components at 2-8°C. For long-term storage, keep standard at –20°C.

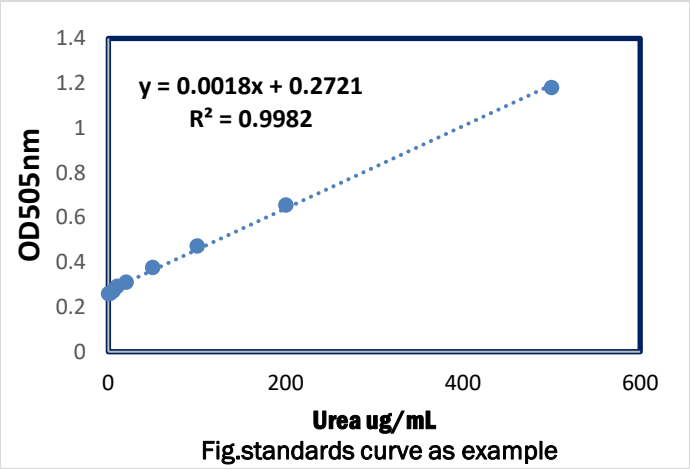

Fig.standards curve as example

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