QuantiChrom™ Creatinine Assay Kit

Creatinine is synthesized in the body at a fairly constant rate from creatine, which is produced during muscle contractions from creatine phosphate. In the blood, creatinine is removed by filtration through the glomeruli of the kidney and is secreted into urine. In healthy individuals, creatinine secretion is independent of diet and is fairly constant. The creatinine clearance test has become one of the most sensitive tests for measuring glomerular filtration rate. In kidney disease, creatinine levels in the blood are elevated, whereas the creatinine clearance rate and hence the urine levels are diminished. Creatinine test is most widely used to assess kidney function.

Simple, direct and automation-ready procedures for measuring creatinine concentration in biological samples are becoming popular in research and drug discovery. BioAssay Systems' creatinine assay kit is designed to measure creatinine directly in biological samples without any pretreatment. The improved Jaffe method utilizes picrate that forms a red colored complex with creatinine. The intensity of the color, measured at 510nm, is directly proportional to the creatinine concentration in the sample. The optimized formulation substantially reduces interference by substances in the raw samples.

APPLICATIONS:

Direct Assays: creatinine in serum, plasma, urine, biological preparations (e.g. fetal bovine serum).
Drug Discovery/Pharmacology: effects of drugs on creatinine metabolism.

KEY FEATURES:

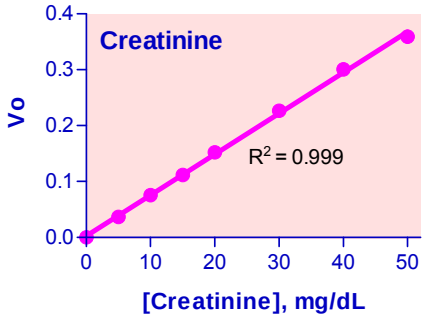
Sensitive and accurate. Use 30 μL samples. Linear detection range 0.10 mg/dL (8μM) to 50 mg/dL (4.4mM) creatinine in 96-well plate assay.
Simple and high-throughput. The procedure involves addition of a single working reagent and read OD_{510nm} at 1 min and 5 min. Can be readily automated as a high-throughput assay in 96-well plates for thousands of samples per day.
Improved reagent stability and versatility. The optimized formulation has greatly enhanced the reagent and signal stability. Assays in cuvet or 96-well plate.
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.
Versatility: assays can be executed in a cuvet or 96-well plate with a spectrophotometer or microplate reader.

QuantiChrom™ Creatinine Assay Kit DICT-500

PRODUCT INFORMATION:

Each kit is sufficient for 500 assays in 96-well plate. Kit includes:

- 1 x 50mL Reagent A
- 1 x 50mL Reagent B
- 1 x 1mL 50mg/dL Creatinine Standard



Standard Curve in 96-well plate in assay
V_o is the initial rate $(OD_5 - OD_1)/4$ of the reaction

REFERENCES:

[1]. Walser M. (1998) Assessing renal function from creatinine measurements in adults with chronic renal failure. Am J Kidney Dis 32: 23-31.

[2]. Rajs G and Mayer M (1992). Oxidation markedly reduces bilirubin interference in the Jaffe creatinine assay. Clin Chem. 38: 2411-2413.

[3]. Cook JG (1971). Creatinine assay in the presence of protein. Clin Chim Acta. 32: 485-486.