Cysteine Assay Kit (Fluorometric)

Cat. No. Kit-1003 **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
Description	Cysteine (CYS) is a sulfhydryl-containing amino acid and an important structural and functional part of proteins. In animals, cysteine is synthesized from transsulfuration of homocysteine, which is itself derived from metabolism of the amino acid methionine. Cystathionine β-synthase catalyzes condensation of homocysteine with serine to form cystathionine, which is deaminated and hydrolyzed by Cystathionine β-lyase to form cysteine and α-ketobutyrate. Because of its nucleophilic nature, the thiol group of cysteine has numerous biological functions. The formation of disulfide linkages between the thiol groups of cysteine residues helps to stabilize the tertiary and quaternary structure of proteins. Cysteine, homocysteine (HCY), and other aminothiols exist in plasma in reduced, oxidized, and protein-bound forms, interacting with each other through redox pathways. Cysteine is the limiting precursor of the major intracellular antioxidant glutathione. The individuals with lower cysteine levels are more prone to damage from reactive oxygen species, which are generally removed either by thiols or by glutathione-linked enzymes. An elevated level of total cysteine also predicts adverse outcomes such as cardiovascular diseases and metabolic syndromes. Cysteine Assay Kit provides a simple, sensitive, and high-throughput adaptable assay that detects physiological concentration of cysteine in a variety of biological fluids. The principle of the assay is based on the cleavage of thiol group of reduced cysteine producing a fluorophore (Ex/Em = 365/450 nm) with a stable signal, which is directly proportional to the amount of total cysteine in the sample. The assay is specific and other thiol-based amino acids do not interfere with the assay. The assay can detect as little as 10 μM of Cysteine in a variety of samples.

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Applications	Estimation of Cysteine in various biological samples
Storage	-20°C
Shipping	Gel Pack
Size	100 assays
Kit Components	CYS Assay Buffer; Enzyme Mix I; Enzyme Mix II; Reducing Agent; HCY Blocker; CYS Probe; CYS Standard
Target Species	Mammalian
Detection method	Fluorescence (Ex/Em = 365/450 nm)
Features & Benefits	Simple, sensitive and HTP adaptable Protocol; Specific for Cysteine without interference from other thiol based amino acids; This kit can detect as little as 10 μM of Cysteine in a variety of biological samples

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