BIOMEDICAL RESEARCH SERVICE CENTER
UNIVERSITY at BUFFALO, STATE UNIVERSITY of NEW YORK

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Albumin Assay Kit (Cat #: A-129)

COMPONENTS: Albumin Assay Solution: 40 ml, store at room temperature (for 200 wells)
100 mg/ml BSA: 1 ml, store at -20ºC

PRODUCT DESCRIPTION: Albumin is a major circulating protein produced by the liver, accounting for ~60% of total serum proteins and playing important roles in maintaining physiological pH and osmotic pressure. The normal range is 3.5 to 5.5 g/dL or 35 to 55 mg/ml. The protein also functions in carrying various hormones, vitamins, metabolites, long-chain fatty acids, bile acids, bilirubin, drugs, magnesium, and calcium. Since serum albumin is a reliable prognostic indicator for morbidity and mortality, an albumin assay is routinely included in the panels of tests known as comprehensive metabolic panel (CMP). An abnormally low or high albumin level may reflect a temporary condition that will resolve itself or may suggest an acute or chronic condition that requires medical intervention. The Serum Albumin Assay Kit is designed to measure albumin directly without any pretreatment of samples (serum, plasma, and urine). The kit may be used for cuvette or multiwell plate assays. The protocol only requires a 5-minute incubation, following which the intensity of a blue color is measured at 610 nm, which is directly proportional to the albumin concentration. The assay kit is stable for at least one year under proper storage and handling conditions.

PROTOCOL:

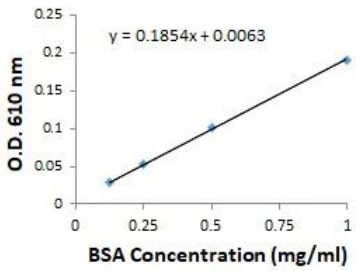
BSA Standards- First dilute the 100 mg/ml BSA standard 100 fold using distilled H_2O to obtain a 1 mg/ml standard, e.g. 990 µl dH_2O + 10 µl 100 mg/ml BSA. Perform serial dilutions to obtain 0.5, 0.25, 0.125, and 0.0625 mg/ml (500, 250, 125, and 62.5 µg/ml) using dH_2O. Diluted protein standards should be stored at -20ºC.

Serum samples- Serum samples typically need to be diluted 100 fold with dH_2O prior to assay. Plasma and urine samples can also be assayed.

Albumin Assay-

1. Pipet 20 µl dH_2O (as blank), diluted BSA standards, and properly diluted sample to a 96-well plate in duplicates.
2. Swiftly add 0.2 ml Albumin Assay Solution to each well (avoid air bubbles). Agitate plate gently for 5 min at room temperature.
4. Read absorbance at 610 nm using a plate reader. Sample albumin concentration can be derived from the BSA standard curve established at the same time. The standard curve must be established for each assay.

   Dilute your sample if sample absorbance exceeds the linear range. Adjust the dilution factor if sample absorbance is too low. Be sure to multiple the result by the applicable dilution factor when calculating sample albumin concentration.



NOTE:

- The assay format can be proportionately scaled up for cuvette measurement.
- The Albumin Assay Solution contains diluted acetic acid. Handle with caution and avoid skin contact. Please visit the product webpage or contact us for MSDS information on acetic acid, sodium acetate, and Bromophenol Blue.