

## Calcium Colorimetric Assay Kit

**Cat. No.** Kit-0138    **Lot. No.** (See product label)

### SPECIFICATION

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| <b>Product Overview</b> | Calcium Assay Kit (Colorimetric) is used for providing a simple assay in the physiologically important range of calcium concentration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Description</b>      | Calcium is essential for all living organisms, where $\text{Ca}^{2+}$ sequestration and release into and out of the cytoplasm functions as a signal for many cellular processes. 99% of calcium is found in bones and teeth with the remaining 1% found in the blood and soft tissue. Serum calcium levels are tightly controlled (8.4-11.4 mg/dL) and any variation outside this range can have serious effects. Calcium plays a role in mediating the constriction and relaxation of blood vessels, nerve impulse transmission, muscle contraction, and hormone secretion. Calcium ion channels control the migration of calcium ions across cell membranes, permitting the activation and inhibition of a wide variety of enzymes. Causes of low calcium levels include chronic kidney failure, vitamin D deficiency, and low blood magnesium levels that can occur in severe alcoholism. The Calcium Assay Kit (Colorimetric) utilizes the chromogenic complex ( $\lambda = 575 \text{ nm}$ ) formed between calcium ions and O-cresolphthalein to provide a simple assay in the physiologically important range of calcium concentration 0.4-100 mg/dL (0.1-25 mM). |
| <b>Target Species</b>   | Mammals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Usage</b>            | For research use only (RUO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Storage</b>          | The kit as supplied is stable for 1 year under proper storage conditions. Calcium Assay Buffer and Chromogenic Reagent are ready to use as supplied. Store at 4°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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when not in use. Warm to room temperature before use. Protect from light.

**Kit Components**

Calcium Assay Buffer: 15 ml  
Chromogenic Reagent: 25 ml  
Calcium Standard (500 mM): 100  $\mu$

**Detection method**

Colorimetric

**Compatible Sample Types**

Biological Fluid, Cell Lysate, Culture Medium, Plasma, Serum, Tissue Lysate, Urine

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