

Calcium Assay Kit (Colorimetric) ab102505

★★★★★ 5 Abreviews 106 References 4 Images

Overview

Product name	Calcium Assay Kit (Colorimetric)
Sample type	Urine, Serum, Plasma, Other biological fluids, Tissue Extracts, Cell Lysate
Assay type	Quantitative
Sensitivity	> 0.1 mM
Range	0.1 mM - 25 mM
Assay time	0h 20m
Species reactivity	<b>Reacts with:</b> Mammals, Other species
Product overview	<p>Calcium Assay Kit (Colorimetric) ab102505 provides a simple assay to determine calcium concentration within the physiological range of 0.4 – 100 mg/dL (0.1 – 25 mM).</p> <p>In the calcium assay protocol, a chromogenic complex is formed between calcium ions and 0-cresolphthalein. The complex is measured at OD = 575 nm.</p> <p>This calcium assay detects free calcium ions only.</p> <p>Calcium assay protocol summary:</p> <ul style="list-style-type: none"><li>- add samples and standards to wells</li><li>- add chromogenic reagent, add calcium assay buffer and incubate for 5-10 min at room temp</li><li>- analyze with microplate reader</li></ul>
Notes	<p>This product is manufactured by BioVision, an Abcam company and was previously called K380 Calcium Colorimetric Assay Kit. K380-250 is the same size as the 250 test size of ab102505.</p>
Platform	Microplate reader

Properties

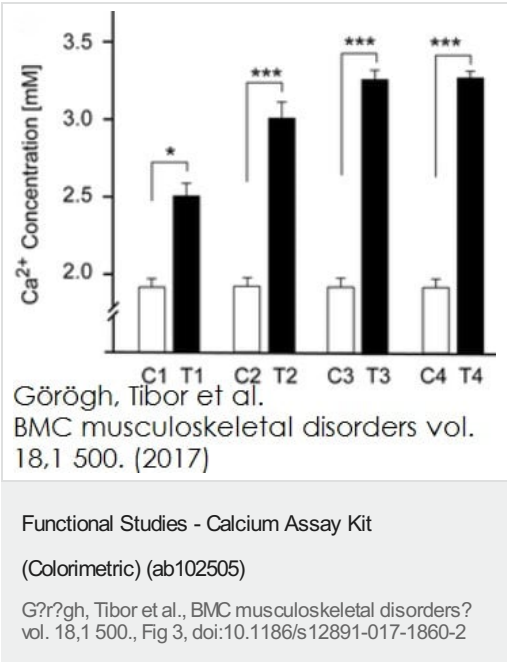
Storage instructions Store at +4°C. Please refer to protocols.

Components	250 tests
Calcium Assay Buffer	1 x 15ml

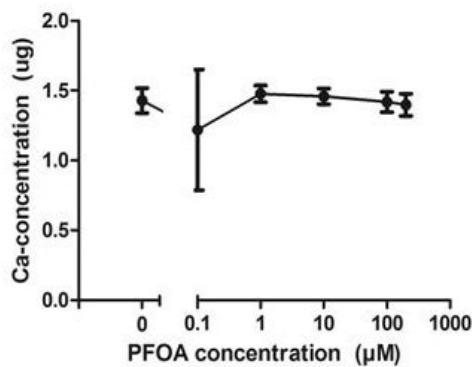
Components	250 tests
Calcium Standard	1 x 100µl
Chromogenic Reagent	1 x 25ml

**Relevance** 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.

Images



Time course of mineralization. Measurement of LDH activity. After a 15-day cultivation period of each of  $2 \times 10^6$  osteoblasts growing in OSC-supplemented media (OSC+) and control osteoblasts growing in non-OSC-supplemented media (OSC-) the LDH activity in the cell free supernatants was determined as described in Material and Methods. Osteoblasts treated with 1% (v/v) Triton-X100 for 1 hour (c) served as a second control. The experiments were carried out with three primary cultures in triplicate



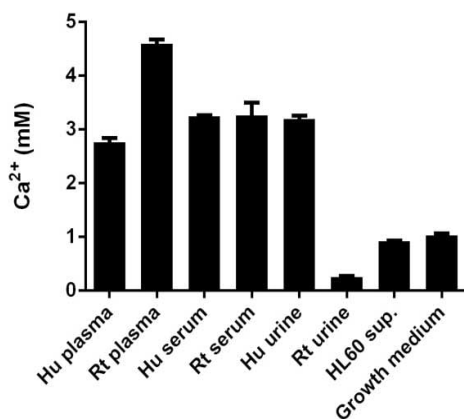
Effect of PFOA on calcium concentrations in cultured human osteoblasts after exposure for 3 or 5 weeks. Plots represent mean  $\pm$  SD.

Koskela, A et al.  
Scientific reports vol. 7,1 6841. (2017)

Functional Studies - Calcium Assay Kit

(Colorimetric) (ab102505)

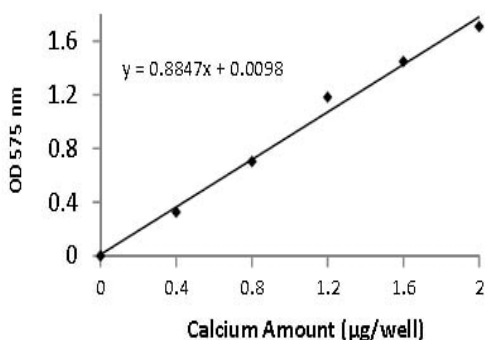
Koskela, A et al., Scientific reports?vol. 7,1 6841., Fig 4,  
doi:10.1038/s41598-017-07359-6



Ca<sup>2+</sup> concentration (millimolar) in various biologicals. Shown bars are average of values from dilutions neat to 1:8.

Functional Studies - Calcium Detection Kit

(Colorimetric) (ab102505)



Example of standard curve obtained using ab102505

Functional Studies - Calcium Detection Kit

(Colorimetric) (ab102505)

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