

### Cal-520, AM ab171868

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#### Overview

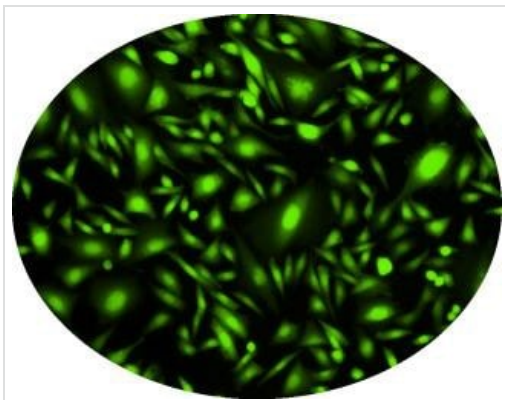
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<b>Product name</b>	Cal-520, AM
<b>General notes</b>	<p>ab171868 provides a robust homogeneous fluorescence-based assay tool for detecting intracellular calcium mobilization. Cal-520 AM is a new fluorogenic calcium-sensitive dye with a significantly improved signal to noise ratio and intracellular retention compared to the existing green calcium indicators (such as Fluo-3 AM and Fluo-4 AM). Cells expressing a GPCR or calcium channel of interest that signals through calcium can be preloaded with Cal-520 AM which can cross cell membrane. Once inside the cell, the lipophilic blocking groups of Cal 520 AM are cleaved by esterases, resulting in a negatively charged fluorescent dye that stays inside cells. Its fluorescence is greatly enhanced upon binding to calcium. When cells stimulated with agonists, the receptor signals the release of intracellular calcium, which significantly increase the fluorescence of Cal-520. The characteristics of its long wavelength, high sensitivity, and &gt;100 times fluorescence enhancement, make Cal-520 AM an ideal indicator for the measurement of cellular calcium. The high S/N ratio and better intracellular retention make the Cal-520 calcium assay a robust tool for evaluating GPCR and calcium channel targets as well as for screening their agonists and antagonists.</p> <p>Molecular Weight (MW) 1102.95 Da.</p>

#### Properties

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<b>Form</b>	Solid
<b>Storage instructions</b>	Store at -20°C. Store In the Dark.
<b>Storage buffer</b>	Constituent: 100% Cal-520®, AM
<b>Relevance</b>	<p>Calcium is essential for all living organisms, where <math>Ca^{2+}</math> 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.</p>



Immunocytochemistry - Cal-520, AM (ab171868)

CHO-M1 cells were seeded overnight at 40,000 cells per 100  $\mu$ L per well in a 96-well black wall/clear bottom plate. 100  $\mu$ l of 4  $\mu$ M Cal 520 AM in HHBS were added into the wells, and the cells were incubated at 37 °C for 2 hour.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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