

Product datasheet

Fluo-8 AM, green fluorescent calcium binding dye

ab142773

8 References 3 Images

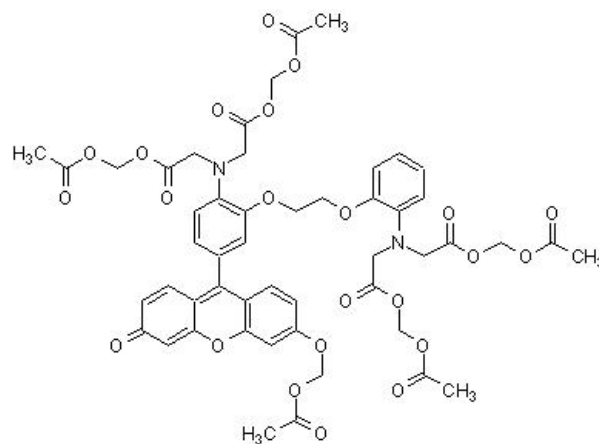
Overview

Product name	Fluo-8 AM, green fluorescent calcium binding dye
Description	Medium affinity green fluorescent calcium binding dye. Cell-permeable.
Biological description	Medium affinity green fluorescent calcium binding dye. Binds to intracellular calcium ($K_d = 390$ nM). Fluorescence intensity increases upon Ca^{2+} binding. Cell-permeable.

Fluo-8 (or Fluo-2 Medium Affinity) has been found to be brighter (1.5x) than Fluo-4 in cellular experiments. It offers improved cell loading and Ca^{2+} response while maintaining the convenient Fluo-3 and Fluo-4 spectral wavelength of maximum excitation at 490 nm and maximum emission at 520 nm. Fluo-8 loading can be performed at room temperature.

CAS Number 1345980-40-6

Chemical structure

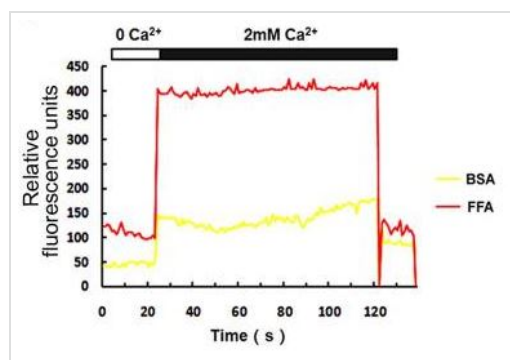


Properties

Excitation	490nm
Emission	520nm
Chemical name	Bis(acetoxymethyl) 2,2'-((4-(6-(acetoxymethoxy)-3-oxo-3H-xanthen-9-yl)-2-(2-(bis(2-acetoxymethoxy)-2-oxoethyl)amino)phenoxy)ethoxy)phenyl)azanediyl)diacetate
Molecular weight	1046.94
Molecular formula	$C_{50}H_{50}N_2O_{23}$

Storage instructions	Store at -20°C. Store under desiccating conditions. The product can be stored for up to 12 months.
Solubility overview	Soluble in DMSO
Handling	<p>Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and prior to opening the vial we recommend that you allow your product to equilibrate to room temperature for at least 1 hour.</p> <p>For more information on AM esters please visit our AM esters FAQ page.</p> <p>Need more advice on solubility, usage and handling? Please visit our frequently asked questions (FAQ) page for more details.</p>
SMILES	<chem>CC(=O)OCOC(=O)CN(CC(=O)OCOC(C)=O)c5ccccc5OCCOc1cc(ccc1N(CC(=O)OCOC(C)=O)CC(=O)OCOC(C)=O)C=2c4ccc(cc4OC3=CC(=O)C=CC=23)OCOC(C)=O</chem>
Source	Synthetic

Images



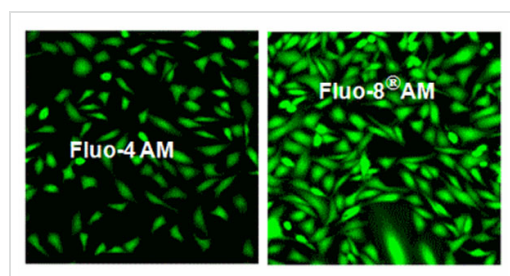
Functional Studies - Fluo-8 AM, green fluorescent calcium binding dye (ab142773)

Cui et al PLoS One. 2013;8(3):e59921. doi: 10.1371/journal.pone.0059921. Epub 2013 Mar 20.

FFA treatments increase Ca²⁺ influx to induce ERS in β-TC3 cells.

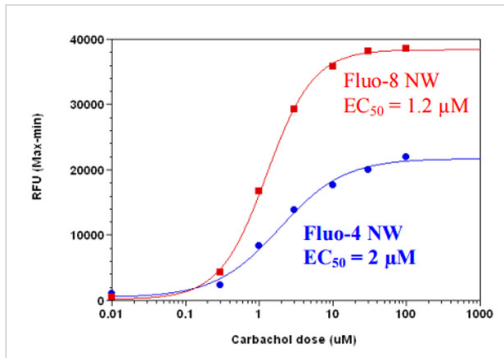
β-TC3 cells were incubated with FFA or BSA for 16 h, and then stimulated with 4 μM thapsigargin for 20 min to activate store-operated Ca²⁺ entry. Fluorescence densities of Ca²⁺ change were monitored in Fluo-8/AM-loaded β-TC3 cells after FFA or BSA treatments.

(From Figure 2B of Cui et al)



Fluorescent Cell Imaging - Fluo-8 AM (ab142773)

U2OS cells were seeded overnight at 40,000 cells per 100 μL per well in a 96-well black wall/clear bottom costar plate. The growth medium was removed, and the cells were incubated with 100 μl of 4 μM Fluo-4 AM or Fluo-8[®] AM in HHBS at 37 °C, 5% CO₂ incubator for 1 hour. The cells were washed twice with 200 μl HHBS, then imaged with a fluorescence microscope using FITC channel.



Fluo-8 vs Fluo-4 sensitivity to calcium release in HEK-293 cells induced by Carbachol.

Functional Studies - Fluo-8 AM (ab142773)

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