Hello Bio, Inc.
304 Wall St., Princeton, NJ 08540 USA

T. 609-683-7500
F. 609-228-4994

customercare-usa@hellobio.com

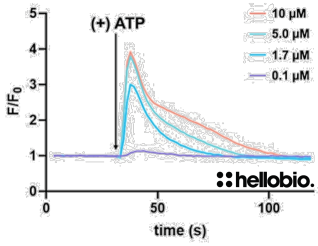
DATASHEET

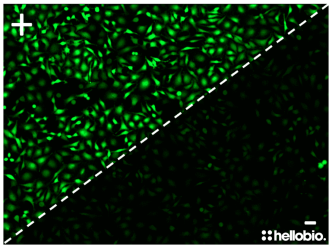
Fluo-4 AM UltraPure

Product overview

Name	Fluo-4 AM UltraPure
Cat No	HB14861
Alternative names	Fluo-4 Acetoxymethyl ester
Biological description	Cell-permeable, green fluorescent calcium indicator dye (K_d = 0.35µM), ideal for calcium imaging (e.g. live-cell imaging and intracellular calcium flux detection). Non-ratiometric. Widely used in fluorescence microscopy, flow cytometry, and high-throughput calcium assays. Brighter, quicker to penetrate cells, more stable and shows higher affinity for Ca^{2+} than Fluo-3. Upon binding calcium, exhibits increased fluorescence in response to 488nm excitation, making it an excellent choice for studying calcium signaling in neurons, cardiomyocytes, other cell types.
Biological action	Dyes & stains
Applications	FACS and flow cytometry, fluorescence imaging, live cell imaging
Purity	>98%
Description	Green fluorescent membrane permeable calcium indicator

Images





Biological Data

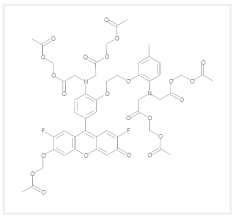
Application notes	Please follow our Fluo-4 AM Protocol

Solubility & Handling

Storage instructions	-20°
Solubility overview	Soluble in DMSO (5mM)
Handling	This compound is light sensitive; exposure to light may affect compound performance. We therefore recommend storing the solid material and any solutions in the dark and protecting from light.
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	N-[4-[6-[(acetyloxy)methoxy]-2,7-difluoro-3-oxo-3H-xanthen-9-yl]-2-[2-[2-[bis[2-[(acetyloxy)methoxy]-2-oxoethyl]amino]-5-methylphenoxy]ethoxy]phenyl]-N-[2-[(acetyloxy)methoxy]-2-oxoethyl]-glycine (acetyloxy)methyl ester
Molecular Weight	1096.9

Chemical structure	
Molecular Formula	$C_{51}H_{50}F_2N_2O_{23}$
CAS Number	273221-67-3
PubChem identifier	4060965
SMILES	FC1=C(OCOC(C)=O)C=C(O2)C(C(C3=CC(OCCOC4=C(N(CC(OCOC(C)=O)=O)CC(OCOC(C)=O)=O)C=CC(C)=C4)=C(C=C3)N(CC(OCOC(C)=O)=O)CC(OCOC(C)=O)=O)=C(C2=CC5=O)C=C5F)=C1
Source	Synthetic
InChiKey	QOMNQGZXFYNBNG-UHFFFAOYSA-N
Appearance	Solid

References

Piezo1 channel activation stimulates ATP production through enhancing mitochondrial respiration and glycolysis in vascular endothelial cells.

Jiang M et al (2023) British journal of pharmacology 180
PubMedID 36740831

Monitoring intracellular calcium ion dynamics in hair cell populations with Fluo-4 AM.

Spinelli KJ et al (2012) PloS one 7
PubMedID 23284798

Reliable measurement of free Ca(2+) concentrations in the ER lumen using Mag-Fluo-4.

Rossi AM et al (2020) Cell calcium 87
PubMedID 32179239

Fast Neuronal Calcium Signals in Brain Slices Loaded With Fluo-4 AM Ester.

İpek ÖY et al (2025) The European journal of neuroscience 61
PubMedID 39804104