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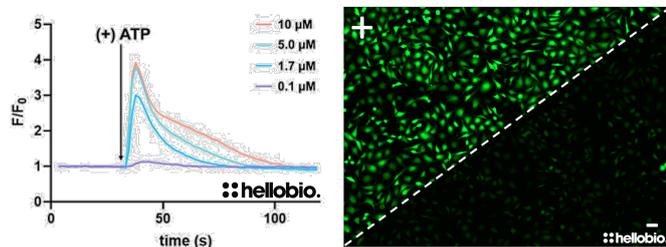
DATASHEET

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 ($K_d = 0.35\mu\text{M}$), 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

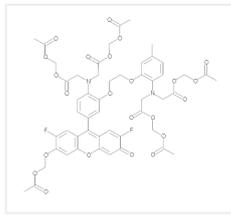
Application notes Please follow our [Fluo-4 AM Protocol](#)

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

SMILESCC(=O)N(C)C(=O)OCC1=CC=C(C=C1)COC(=O)C2=CC(=CC=C2)N(C)C(=O)OCC(=O)OC3=CC=C(C=C3)COC(=O)OC4=CC(=CC=C4)COC(=O)OC5=CC=C(C=C5)COC(=O)OC6=CC=C(C=C6)COC(=O)OC7=CC=C(C=C7)COC(=O)OC8=CC=C(C=C8)COC(=O)OC9=CC=C(C=C9)COC(=O)OC10=CC=C(C=C10)COC(=O)OC11=CC=C(C=C11)COC(=O)OC12=CC=C(C=C12)COC(=O)OC13=CC=C(C=C13)COC(=O)OC14=CC=C(C=C14)COC(=O)OC15=CC=C(C=C15)COC(=O)OC16=CC=C(C=C16)COC(=O)OC17=CC=C(C=C17)COC(=O)OC18=CC=C(C=C18)COC(=O)OC19=CC=C(C=C19)COC(=O)OC20=CC=C(C=C20)COC(=O)OC21=CC=C(C=C21)COC(=O)OC22=CC=C(C=C22)COC(=O)OC23=CC=C(C=C23)COC(=O)OC24=CC=C(C=C24)COC(=O)OC25=CC=C(C=C25)COC(=O)OC26=CC=C(C=C26)COC(=O)OC27=CC=C(C=C27)COC(=O)OC28=CC=C(C=C28)COC(=O)OC29=CC=C(C=C29)COC(=O)OC30=CC=C(C=C30)COC(=O)OC31=CC=C(C=C31)COC(=O)OC32=CC=C(C=C32)COC(=O)OC33=CC=C(C=C33)COC(=O)OC34=CC=C(C=C34)COC(=O)OC35=CC=C(C=C35)COC(=O)OC36=CC=C(C=C36)COC(=O)OC37=CC=C(C=C37)COC(=O)OC38=CC=C(C=C38)COC(=O)OC39=CC=C(C=C39)COC(=O)OC40=CC=C(C=C40)COC(=O)OC41=CC=C(C=C41)COC(=O)OC42=CC=C(C=C42)COC(=O)OC43=CC=C(C=C43)COC(=O)OC44=CC=C(C=C44)COC(=O)OC45=CC=C(C=C45)COC(=O)OC46=CC=C(C=C46)COC(=O)OC47=CC=C(C=C47)COC(=O)OC48=CC=C(C=C48)COC(=O)OC49=CC=C(C=C49)COC(=O)OC50=CC=C(C=C50)COC(=O)OC**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](#)
