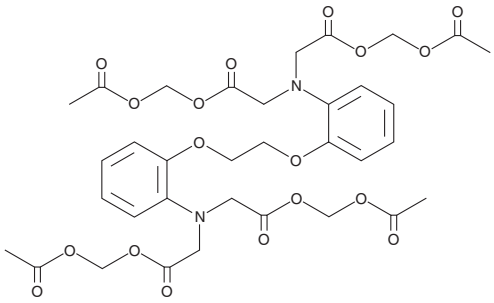
PRODUCT INFORMATION

BAPTA AM

Item No. 15551

CAS Registry No.: 126150-97-8
Formal Name: N,N'-[1,2-ethanediylbis(oxy-2,1-phenylene)] *bis*[N-[2-[(acetyloxy)methoxy]-2-oxoethyl]-1,1'-*bis*[(acetyloxy)methyl] ester-glycine
Synonym: BAPTA Acetoxymethyl ester
MF: $C_{34}H_{40}N_2O_{18}$
FW: 764.7
Purity: ≥98%
UV/Vis.: λ_{max}: 213, 248, 286 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

BAPTA AM is supplied as a crystalline solid. A stock solution may be made by dissolving the BAPTA AM in the solvent of choice. BAPTA AM is soluble in organic solvents such as DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of BAPTA AM in these solvents is approximately 20 mg/ml.

BAPTA AM is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, BAPTA AM should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. BAPTA AM has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

BAPTA (Item No. 11706) is membrane-impermeable calcium chelator that binds extracellular calcium ions (K_d =0.11 µM), with selectivity over magnesium ions or protons.[1,2] BAPTA and its derivatives can also be used as calcium indicators, since the absorption maximum for BAPTA changes when it is complexed with calcium (absorption maxima free/complexed = 254/274 nm, emission maxima free/complexed = 363/363 nm).[3] BAPTA AM is a cell permeable analog of BAPTA that binds calcium only after the acetoxymethyl group is removed by cytoplasmic esterases.[4] It is commonly used at 10-100 µM to evaluate the role of intracellular calcium in cell signaling.[4-7] It can also be used in animals.[4] BAPTA AM also inhibits voltage-gated potassium (K_v) channels, including K_v1.3, K_v1.5, and K_v11.1 (K_i = 1.45, 1.23, and 1.30 µM, respectively).[8]

References

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