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ProductInformation

BIS-TRIS propane

Product Number **B 6755**
Store at Room Temperature

Product Description

Molecular Formula: $C_{11}H_{26}N_2O_6$
Molecular Weight: 282.3
CAS Number: 64431-96-5
pK_a1: 6.8 (25 °C)
pK_a2: 9.0 (25 °C)
$\Delta pK/\Delta T$ = -0.03
Synonym: 1,3-bis[tris(hydroxymethyl) methylamino]propane

Bis-Tris propane is a zwitterionic buffer that is used in biochemistry and molecular biology. It has an unusually wide buffering range, from approximately pH 6 to 9.5, because its two pK_a values are close in value.

A review of DNA polymerase fidelity and its role in the polymerase chain reaction (PCR) discusses the use of Bis-Tris propane as a suitable buffer.[1] The use of a Bis-Tris propane/HCl buffer for the stabilization of farnesyl diphosphate isolated from a mutant strain of *Saccharomyces cerevisiae* has been described.[2] Bis-Tris propane buffer has been used in a study of the effects of buffer identity on electric signals of light-excited bacteriorhodopsin.[3] An investigation of the MgATPase activity of the myosin subfragment 1 monomer in Bis-Tris propane buffer has been reported.[4] The effect of buffer identity on the kinetics of the restriction enzyme *Eco*R V has been studied in various buffers, including Bis-Tris propane.[5]

Bis-Tris propane has been used in protein crystallization, such as in the crystallization of glutamate dehydrogenase from *Thermotoga maritima* and of pullulanase type I from *Fervidobacterium pennivorans* Ven5.[6,7] The analysis of Langmuir and Langmuir-Blodgett monolayers of organophosphorus acid anhydrolase in different subphases, including Bis-Tris propane buffer, has been reported.[8] The preparation and phosphodiester hydrolysis activity of complexes of lanthanum and Bis-Tris propane have been investigated.[9]

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in water (428 mg/ml), yielding a clear, colorless solution.

Storage/Stability

Solutions of this product are expected to be stable to autoclaving. Solutions stored at 2-8 °C are stable for months.

References

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4. Bachouchi, N., et al., MgATPase activity of myosin subfragment 1. The dimer is more active than the monomer. J. Mol. Biol., **191(2)**, 247-254 (1986).
5. Wenner, J. R., and Bloomfield, V. A., Buffer effects on EcoRV kinetics as measured by fluorescent staining and digital imaging of plasmid cleavage. Anal. Biochem., **268(2)**, 201-212 (1999).
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7. Lebbink, J. H., et al., Crystallization and preliminary X-ray crystallographic studies of the thermoactive pullulanase type I, hydrolyzing alpha-1,6 glycosidic linkages, from *Fervidobacterium pennivorans* Ven5. Acta Crystallogr. D Biol. Crystallogr., **56(Pt 11)**, 1470-1472 (2000).

8. Mello, S. V., et al., Langmuir and Langmuir-Blodgett films of organophosphorus acid anhydrolase. Biomacromolecules, **4(4)**, 968-973 (2003).

9. Gomez-Tagle, P., and Yatsimirsky, A. K., Phosphodiester hydrolysis by lanthanide complexes of bis-tris propane. Inorg. Chem., **40(15)**, 3786-3796 (2001).

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