Calcium chloride dihydrate
SigmaUltra

Product Number C5080
Store at Room Temperature
Replacement for Product Code 47,087-2

Product Description
Molecular Formula: CaCl₂ • 2H₂O
Molecular Weight: 147.0
CAS Number: 10035-04-8

Trace elemental analyses have been performed on the SigmaUltra calcium chloride. The Certificate of Analysis provides lot-specific results. SigmaUltra calcium chloride is for applications which require tight control of elemental content.

Calcium chloride is a commonly used reagent in biochemistry. Calcium plays important roles in many biological processes, including signal transduction, muscle contraction, and maintenance of cell membrane and cell wall stability.¹,² Extensive reviews of the experimental measurement of biological calcium have been published.³,⁴

Calcium chloride is used in the preparation and transformation of competent E. coli and in the transfection of eukaryotic cells with either plasmid DNA or high molecular weight genomic DNA.⁵ The CaCl₂-mediated electroporation of E. coli with the plasmid DNA pBR322 has been studied.⁶ A protocol for the concentration of virus vectors that uses CaCl₂ has been published.⁷

CaCl₂ has been used in the stabilization and two-dimensional crystallization of the NADH-ubiquinone oxidoreductase (complex I) from Escherichia coli.⁸ The crystallization of porcine pancreatic elastase in the presence of CaCl₂ in the presence of sodium citrate reveals binding of calcium in the metal binding site of the protein.⁹ The effect of CaCl₂ on the total fluorescence in the polymerization of the tubulin-like FtsZ division protein of Escherichia coli has been studied by a multiwell fluorescent assay.¹⁰

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

Preparation Instructions
This product is soluble in water (147 mg/ml, 1 M), yielding a clear, colorless solution.

References

GCY/GCY 5/06