Product Data Sheet

Chemical Properties

- **Product Name:** Calcium chloride dihydrate
- **Cas No.:** 10035-04-8
- **M.Wt:** 147.01
- **Formula:** CaCl2H4O2
- **Chemical Name:** calcium chloride dihydrate
- **Canonical SMILES:** [Ca+2].[Cl-].[Cl-].O.O
- **Solubility:** Soluble to 1000 mM in sterile water
- **Storage:** Store at RT
- **General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
- **Shopping Condition:** Evaluation sample solution: ship with blue ice
  All other available size: ship with RT, or blue ice upon request

Biological Activity

- **Targets:** Others
- **Pathways:** Reagents
- **Description:**
  Calcium Chloride is a widely used reagent in the research of biochemistry. Calcium plays roles of great importance in physiological function, including signal transmitting, muscle contraction, and maintenance of cell morphology and stability. Chloride ions are essential in body fluids which maintain the acid/base balance and transduce nerve impulses. Calcium Chloride is used in the preparation and transformation of competent Escherichia. Coli and in the transfection of eukaryotic cells with either plasmid DNA or high molecular weight...
genomic DNA. CaCl2 has been used in the stabilization and two-dimensional crystallization of the
NADH-ubiquinone oxidoreductase from E. coli. The crystallization of procine 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. [1]

Calcium chloride was also assessed for its ability to bind dietary phosphorus both in vivo and in
vitro. The outcome revealed that inhibition of phosphorus absorption by calcium chloride
involves a complex interplay between chemical reactions and ion transport processes in the
stomach and small intestine. Moreover, calcium chloride was assessed for the rapidity of reaction
at pH 7 which showed 99% binding at 10 min. Calcium chloride is also a convenient and reliable
reagent for creating aneurysm model. Doses of 13.6 mEq/10 ml calcium chloride solution were
administered to the abdominal aorta of nine mice daily. The diameters of vessel were measured
in 7-day intervals and had significant increasing, which could be results of inflammatory infiltrates
in the intima and media layers underlying mechanisms for this model include disrupting the
elastic network within the media by calcium precipitations and activating the inflammatory
response. [2, 3]

Reference: