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CALM Human

Calmodulin Human
NTP0015

Product Overview

Name	CALM Human

Description

Calmodulin Human

Synonyms

Calmodulin, CaM, CALM.

Source

Human brain tissue.

Physical Appearance

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation

CALM was lyophilized with 2mM EDTA.

Stability

Lyophilized CALM although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Calmodulin should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 95.0%.

Solubility

It is recommended to reconstitute the lyophilized CALM in sterile 18MΩ-cm H2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Applications

Blood samples from tissue donors were tested and found to be negative for syphilis, HBsAg, HIV-1 and HIV-2 antibodies and HCV.

Background

Calmodulin, a small, ubiquitous calcium-binding protein, stands as a linchpin in cellular signalling cascades. Its ability to modulate diverse cellular processes by transducing calcium signals has made it a focal point of scientific inquiry. With its role extending from muscle contraction to neurotransmitter release and gene expression, calmodulin orchestrates intricate physiological responses. This research delves into the multifaceted world of calmodulin,

exploring its structural characteristics, calcium-binding properties, and its pivotal involvement in various biological pathways. Structural Marvel of Calmodulin: Calmodulin boasts a unique dumbbell-shaped structure, composed of four EF-hand motifs that enable it to bind calcium ions. When calcium binds to calmodulin, it undergoes a conformational change, allowing it to interact with a myriad of target proteins. This structural adaptability is fundamental to its ability to regulate a wide array of cellular activities. Calcium Signalling and Transduction: Intracellular calcium serves as a ubiquitous second messenger, and calmodulin is the key mediator of calcium signalling. When calcium levels rise, calmodulin binds calcium ions, triggering its activation. This activated form of calmodulin modulates the activity of various proteins, including enzymes, ion channels, and transcription factors. By doing so, calmodulin influences processes such as muscle contraction, neurotransmitter release, and cell proliferation.

Precautions

CALM Human is for research use only and not for use in diagnostic or therapeutic procedures.

Background

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