

ABSOLUTE LECTINS

05-0103 Calmodulin



Benefits

- Calcium-binding protein
- Intracellular receptor protein
- Calcium-binding protein
- Lyophilized powder

Product description

Calmodulin is a bioactive protein isolated from bovine testes with a molecular weight of 16,7 kDa. The material is derived from cattle born and raised in Sweden, a country where BSE (bovine spongiform encefalopati) is not known to exist. Calmodulin is a calcium-binding protein expressed in many eukaryotic cells. By binding to and regulating various protein targets, it affects cellular processes such as metabolism, nerve growth, apoptosis, inflammation, muscle contraction and memory.

Many proteins use Calmodulin as a calcium sensor and signal transducer, as the proteins themselves are not able to bind calcium. The molecule can bind a maximum of four calcium ions and by undergoing post-translational modifications such as acetylation, phosphorylation, proteolytic cleavage and methylation, its functions can potentially be altered.

Medicago's Calmodulin is supplied as a lyophilized white powder from 50 mM NH_4HCO_3 with 10 μM CaCl_2 . No preservatives are added. The protein content is analyzed by amino acid assay and is never less than 80 % of weighed substance.

Applications

- Protein calcium-binding studies on the regulation of a multitude of different protein targets
- Activation of cyclic nucleotide-dependent phosphodiesterase
- Co-factor/activator for kinase studies
- Studies of edema factor toxin and anthrax bacteria

Directions for use

The protein may be reconstituted with 2 ml of deionized water before use, spin the vial gently until full dissolution.



Figure 1: Crystal structure of bovine Ca^{2+} calmodulin (1)

| Specifications | Calmodulin (05-0103) |
|---------------------|---|
| Appearance | White lyophilized powder |
| Source | Bovine testes |
| Molecular weight | 16,7 kDa |
| Binding specificity | Calcium |
| Activity | The material is subjected to an acid treatment \leq pH 5.5 for at least 30 min. |
| Microorganisms | \leq 100 CFU/g |
| Shelf life | \geq Five years when stored at -20°C |

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Tips and hints

Avoid repeated freezing and thawing.

Shipping and storage

The product is shipped at -20°C however for over-the-day transport it may be shipped at ambient temperature. Stability will last for more than five years from production date when stored at -20°C in closed container. After reconstitution with deionized water, the solution may be stored frozen in working aliquots for up to 12 months.

Certifications

Medicago's laboratories and manufacturing site in Uppsala are ISO 9001:2015 certified. Each stage of the manufacturing process is controlled and monitored by stringent quality control procedures to guarantee the highest possible quality and lot-to-lot reproducibility.



Ordering information

| Article no. | Product name | Pack size |
|---------------|--------------|-----------|
| 05-0103-2 | Calmodulin | 2,5 mg |
| 05-0103-100mg | Calmodulin | 100 mg |
| 05-0103-1g | Calmodulin | 1 g |

References

(1) A closed compact structure of native ca (2+)-calmodulin. Fallon, J.L., Quiocho, F.A. (2003) Structure 11: 1303–7.