

# 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  $\text{NH}_4\text{HCO}_3$  with 10  $\mu\text{M}$   $\text{CaCl}_2$ . 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  $\text{Ca}^{2+}$  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 $-20^\circ\text{C}$

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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.