

UNDERSTANDING C3-COLOSTRUM CALMING COMPLEX

INTRODUCTION

The Composure product distributed by VetriScience Laboratories has been shown to be an effective formulation which provides a calming and anxiolytic response in stressed dogs and cats. The positive effect of the product has been demonstrated in several controlled field studies and from observations made by of both veterinarians and pet owners. Composure contains Thiamine (Vitamin B1) , L-Theanine and a colostrum derived ingredient called Colostrum Calming Complex which is abbreviated as C3. These active agents work synergistically to counter the effects of environmental stressors.

This piece will focus on the C3 ingredient; how it is produced, its composition and its complex actions to produce a calming effect in dogs and cats.

How is C3 Produced

C3 is derived from bovine colostrum which is collected from the first 12 hours of milk production after birth of the calf. The cows

from which the colostrum is collected are fed a carefully designed scientific diet which not only ensures the health of the mother but also that the colostrum produced is of high quality, consistent in composition and nutritionally complete. This diet is free of synthetic hormones, pesticides and antibiotics. Additionally, all herds used to source the C3 ingredient are maintained in the U.S.

C3 is produced under carefully supervised cGMP (current good manufacturing practices) The C3 is truly a unique product that is produced by a microfiltration process that isolates a consistent blend of highly bioactive ingredients from which most of the lactose and fat have been removed. It is done under low heat and sterile conditions so as to preserve the structure and biologic activity of the components. The consistency and activity of the ingredients are confirmed by HPLC and cell culture techniques.

What is the Composition of C3

C3 contains a wide range of bioactive molecules which empower the body's natural abilities to handle environmental stressors.

C3's key components include:

- Bioactive peptides and proteins
- Immunoglobulins
- Calcium calmodulin
- Glycoproteins
- Monosaccharides
- Growth and Transfer Factors
- Lactoalbumins
- Lactoferrins
- Oligosaccharides
- Proline rich polypeptides (PRP)
- Sialic Acid

How does C3 Work

The colostrum calming complex C3 supports brain activity, relaxation and cognitive function. The biologically active components present in C3 are diverse and complex. At this point, most of the mechanisms of action of C3 are unproven. The effects of the Calming Colostrum Complex however, have been tested and authenticated.

One of the active agents in C3 is a decapeptide that has a similar mode of action as alpha caseozepine. This is proposed to work by binding to the benzodiazepine receptors to enhance the effect of GABA. GABA is an inhibitory neurotransmitter and by increasing GABA's activity, the brain is less reactive. There are several types of GABA receptors. The first is the most common and mediates sedation and tolerance. C3 has been shown to be non-sedative and tolerance doesn't occur with

long term usage. A second receptor is present in the hippocampus as well as in the spinal cord. Activation of these receptors is important for cognition and anxiolytic actions. This is where C3 has its most important effect. The activation of these receptors creates a non-sedative but relaxed state of mind but at the same time doesn't induce muscle relaxation or memory loss. This creates a calm state while the dog or cat remains alert and responsive. C3 also contains between 50-100 oligosaccharides that synergistically enhance the effect of the decapeptide.

Another active component of C3 is Sialic Acid (N-acetylneuraminic Acid). Sialic Acid has been shown to modulate the immune system and support cellular communication. It is linked to improved memory and cognition. Sialic acid is easily absorbed and abundant in colostrum protein.

Proline rich polypeptides are associated with enhancing mood and cognitive abilities. These polypeptides are best sourced through colostrum.

CONCLUSION

C3 is a safe and effective calming agent countering the effects of environmental stressors in companion animals. C3 has been shown to be part of an anxiety reduction protocol which produces enhanced cognition without sedation. Its use produces a repeatable and reliable effect

and can be used as part of a comprehensive behavior modification treatment plan.

When combined with the other ingredients in Composure, C3 can positively impact the quality of life for animals and their owners.

References for C3

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Characterization of alpha-casozepine, a tryptic peptide from bovine alpha(s1)-casein with benzodiazepine-like activity.

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Modulation of Cerebral Activity Induced by α -casozepine, a Benzodiazepine-like Peptide Derived from Bovine Casein

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Genetic alteration of anxiety and stress-like behavior in mice lacking CaMKIV.

[Shum FW¹](#), [Ko SW](#), [Lee YS](#), [Kaang BK](#), [Zhuo M](#).

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Abstract

A proline-rich polypeptide complex and its nonapeptide fragment inhibit nitric oxide production induced in mice

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<https://doi.org/10.1016/j.regpep.2004.07.024>[Get rights and content](#)

Dietary sialic acid supplementation improves learning and memory in piglets^{1,2,3}

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