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# Tastease-c gummies : A natural calcium supplement aquamin gummies

**Govind Shukla, Neha S.Giri, Meghla R, C.J. Sampath Kumar**

*Lactonova Nutripharm (P) Ltd, Makers of* ***TASTEASE-C GUMMIES*** *81/3, IDA Mallapur, Hyderabad, Telangana, India-500 076.*

**Corresponding author: Govind Shukla**

**E-mail: govindbbd@gmail.com**

## ABSTRACT

Aquamin, is a natural,multimineral derived from the red algae Lithothamnion corallioides, rich in calcium, magnesium and 72 other trace minerals. Aquamin promotes increased mineralisation in osteoblast cell culture. Aquamin plays an important role in promoting bone formation and may be useful in treating bone diseases such as osteoporosis. Aquamin directly enhances osteogenesis by providing not only an extra source of calcium but also other essential bone supporting minerals necessary for the mineralisation of extracellular matrix deposited by these cells. Calcium is the most common mineral in the human body. About 99% of the calcium in the body is found in bones and teeth, while the other 1% is found in the blood and soft tissue. Calcium levels in the blood and fluid surrounding the cells (extracellular fluid) must be maintained within a very narrow concentration range for normal physiological functioning. The physiological functions of calcium are so vital to survival that the body will demineralize bone to maintain normal blood calcium levels when calcium intake is inadequate. Thus, adequate dietary calcium is a critical factor in maintaining a healthy skeleton. This review summarises the current available scientific literature regarding the effect of TASTEASE-C Gummies,A Natural calcium Supplement Aquamin gummies in supporting optimal bone Health.

**Keywords:** TASTEASE-C Gummies, Natural calcium Supplement, Aquamin gummies, Optimal bone Health.

## INTRODUCTION

**WHY CALCIUM?**

***Calcium Deficiency can lead to:***

- Brittle or weak bones
- Bone fracture
- Osteoporosis
- Weakness or Fatigue
- Delay In children's growth and development

**Which Calcium supplement?**

| Form | Bioavailability | Source |
|---|---|---|
| Calcium Carbonate | Low | Rocks, Limestone |
| Calcium Citrate | Low | Synthetic |
| Calcium Gluconate | Low | Synthetic |
| Calcium Lactate | Low | Synthetic |
| Calcium phosphate | Low | Synthetic |
| Calcium citrate malate | Medium | Synthetic |
| **Tastease C (Aquamin)** | **High** | **Natural Marine Red Algae** |

**Recommended dosage of daily Calcium**

| Group | Calcium(mg/d) |
|---|---|
| Men | 600 |
| Women | 600 |
| Boys +girls above 10 years | 800 |

Calcium obtained from regular diet is approximately 400mg/day or lesser. Reference: Nutrient Requirements and Recommended Dietary Allowances For Indians, ICMR.

Calcium is a major structural element in bones and teeth. The mineral component of bone consists mainly of hydroxyapatite crystals, which contain large amounts of calcium and phosphorus (about 40% calcium and 60% phosphorus). Bone is a dynamic tissue that is remodeled throughout life. Bone cells called osteoclasts begin the process of remodeling by dissolving or resorbing bone. Bone-forming cells called osteoblasts then synthesize new bone to replace the bone that was resorbed. During normal growth, bone formation exceeds bone resorption. Osteoporosis may result when bone resorption exceeds formation [1,2].

## Cell signaling

Calcium plays a role in mediating the constriction and relaxation of blood vessels (vasoconstriction and vasodilation), nerve impulse transmission, muscle contraction, and the secretion of hormones, such as insulin. Excitable cells, such as skeletal muscle and nerve cells, contain voltage-dependent calcium channels in their cell membranes that allow for rapid changes in calcium concentrations. For example, when a muscle fiber receives a nerve impulse that stimulates it to contract, calcium channels in the cell membrane open to allow a few calcium ions into the muscle cell [4]. These calcium ions bind to activator proteins within the cell that release a flood of calcium ions from storage vesicles inside the cell [21, 22]. The binding of calcium to the protein, troponin-c, initiates a series of steps that lead to muscle contraction. The binding of calcium to the protein, calmodulin, activates enzymes that breakdown muscle glycogen to provide energy for muscle contraction [3-6].

## Cofactor for enzymes and proteins

Calcium is necessary to stabilize or allow for optimal activity of a number of proteins and enzymes. The binding of calcium ions is required for the activation of the seven "vitamin K-dependent" clotting factors in the coagulation cascade. The term, "coagulation cascade," refers to a series of events, each dependent on the other that stops bleeding through clot formation [5].

## Regulation of calcium levels

Calcium concentrations in the blood and fluid that surrounds cells are tightly controlled in order to preserve normal physiological functioning (diagram) [20]. When blood calcium decreases (e.g., in the case of inadequate calcium intake), calcium-sensing proteins in the parathyroid glands send signals resulting in the secretion of parathyroid hormone (PTH) [18]. PTH stimulates the conversion of vitamin D to its active form, calcitriol, in the kidneys. Calcitriol increases the absorption of calcium from the small intestine. Together with PTH, calcitriol stimulates the release of calcium from bone by activating osteoclasts (bone resorbing cells), and decreases the urinary excretion of calcium by increasing its reabsorption in the kidneys. When blood calcium rises to normal levels, the parathyroid glands stop secreting PTH and the kidneys begin to excrete any excess calcium in the urine. Although this complex system allows for rapid and tight

control of blood calcium levels, it does so at the expense of the skeleton [7].

## DEFICIENCY

A low blood calcium level usually implies abnormal parathyroid function, and is rarely due to low dietary calcium intake since the skeleton provides a large reserve of calcium for maintaining normal blood levels [8]. Other causes of abnormally low blood calcium levels include chronic kidney failure, vitamin D deficiency, and low blood magnesium levels that occur mainly in cases of severe alcoholism. Magnesium deficiency results in a decrease in the responsiveness of osteoclasts to PTH. A chronically low calcium intake in growing individuals may prevent the attainment of optimal peak bone mass. Once peak bone mass is achieved, inadequate calcium intake may contribute to accelerated bone loss and ultimately the development of osteoporosis [9,10].

**TASTEASE-C GUMMIES, A NATURAL CALCIUM SUPPLEMENT AQUAMIN GUMMIES**

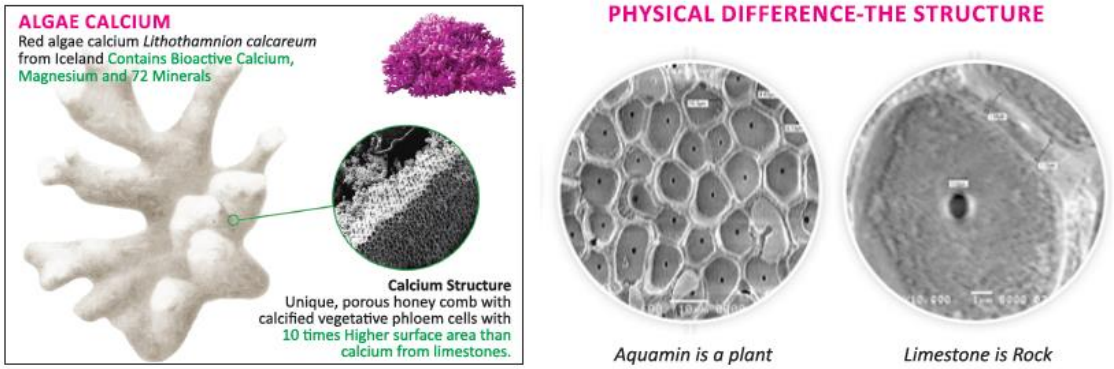


FIG.1

**COMPOSITION OF TASTEASE-C GUMMIES**

| Nutritional Facts* | | |
|---|---|---|
| Serving size : 1 Gummy | | Serving Per Container 90 Gummies |
| **Supplement Facts** | Amount per serving (Approx.) | % ICMR RDA* |
| Calories | 9.2Kcal | |
| Carbohydrates | 2.2g | |
| Dietary Fibre | <0.01g | |
| Sugar | 1.71g | |
| Fats | <0.05g | |
| Proteins | <0.01g | |
| Calcium (Aquamin) | 100mg | 16.66% |
| Magnesium (Aquamin) | 7.27mg | 2.13% |
| * Approximate Values<br>** Percent daily values are based on a 2000 calorie diet.<br>*** Daily value not established. | | |

**Other Ingredients :** Sugar, L-Glucose, Sodium Citrate [331], Citric Acid [330], Carrageenan, Oils (such as Safflower Oil/3H Oil), Wax (such as Carnauba wax [903], Strawberry Flavour & Fruit Pulp.

## Pharmacology [11]

### *WHY TASTEASE-C (Aquamin)?*

- TASTEASE- C is a delicious gummy formulation encompassing AQUAMIN, a Unique Marine multimineral complex derived from 100% seaweed which absorbs minerals from surrounding sea water.
- PUGOS has partnered with MARIGOT, IRELAND to source this unique product (AQUAMIN).
- MARIGOT meets and exceeds the highest international standards to ensure that the material is harvested in a sustainable manner processed with GMP.

### *UNIQUE PRODUCT-Aquamin in TASTEASE-C*

- AQUAMIN in TASTEASE-C is not just Calcium. It contains bioactive calcium, magnesium, iron and around 72 other trace marine minerals.
- It has a unique structure, is neutral tasting, free of chalky texure and easily absorbed by the human body.
- The combination of Calcium and trace minerals together enhances Calcium absorption and provides higher bioavailability in the human body compared to regular Calcium supplements

## UNIQUE SOURCE-Aquamin *in TASTEASE-C*

- Harvested under an exclusive license
- Harvested from the cool, clean and pristine waters off the coast of Iceland.
- Harvested In an area untouched by international shipping and industry

## *Composition of Aquamin in TASTEASE-C*


### *Calcium*

- Calcium contributes to bone structure and strength.

### *Magnesium*

- For bone structure and strength.
- Protects bone density and cardiovascular health.
- For muscle relaxation, metabolism and numerous enzymatic reactions in your body.
- Enhances calcium adsorption.

### Trace Marine Minerals

- Important for promoting bone growth.

### These trace minerals include:

- **Natural silica** enhances the utilization of calcium in your body.
- **Strontium and vanadium** help to support normal bone formation and decrease the risk of bone fractures.
- **Boron** promotes bone growth, protects vitamin D levels and contributes to calcium absorption.

### Tastease C For Adults

- Tastease C helps to maintain the healthy bone formation
- Prevents loss in bone density by providing the essential Calcium along with other minerals.
- Provides digestive health benefits
- Improved symptoms of colitis,
- Anti-inflammatory activity in the GI tract,
- Protection from liver damage,
- Reduced polyp formation,
- Maintenance of a healthier stomach wall.
- Enhances the gut health by restoring a balanced immune response,
- Provides a balanced gut micro flora.

### Tastease C for Children

- Provides the Calcium crucial to the developing and maintaining healthy bones in children.
- Tastease C is beneficial for long-term bone health.

**Tastease C Versus Competitor products**

| Tastease - C | Competitors |
|---|---|
| Delicious Mango flavor | Unappealing and Unpleasant after taste and texture |
| Contains natural source of Calcium and Magnesium with trace elements. | Synthetic |
| Has a fun and juicy texture | Are chewy, mushy and dry |
| Has a natural fruit juice as sweetener | Artificial sweeteners |
| Higher Bioavailability | Lesser Bioavailability |
| Nature identical color. | Have artificial colors |
| Highly Absorbable | Difficulty in absorption |
| Highly effective bone care | Less effective bone care |

### Supplement Facts

**Presentation:** Gummies

**Usage:**

- **Helps to support optimal bone density.**
- **Helps to support bone matrix deposition & mineralization.**
- **Delivers highest level of efficacy with most bioavailable form.**

- **Contra-indications:** Product is contra-indicated in persons with Known hypersensitivity to any component of the product hypersensitivity to any component of the product [12-15].
- **Recommended usage :** 1-2 Gummies twice a day.
- "Do not exceed the recommended daily dose"
- **Administration:** Taken by oral route at anytime with food.
- **Precautions:** Do not exceed the recommended daily dose.

- **Warnings:** If you are taking any prescribed medication or has any medical conditions always consults doctor or healthcare practitioner before taking this supplement.
- **Side Effects:** Very Mild side effects like nausea, headache and vomiting in some individuals may be observed.
- **Storage:** Store in a cool, dry and dark place.

## CONCLUSION

Aquamin, is a natural,multimineral derived from the red algae Lithothamnion corallioides, rich in calcium, magnesium and 72 other trace minerals. Aquamin promotes increased mineralisation in osteoblast cell culture. Aquamin plays an important role in promoting bone formation and may be useful in treating bone diseases such as osteoporosis. Aquamin directly enhances osteogenesis by providing not only an extra source of calcium but also other essential bone supporting minerals necessary for the mineralisation of extracellular matrix deposited by these cells [16].

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## Conflicts of interest statement

The authors declare that there is no conflict of interest.

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