

The dried fruit rind of *Garcinia cambogia* contains hydroxycitric acid (HCA), an established competitive inhibitor of ATP citrate lyase, an enzyme which catalyzes the conversion of citrate into acetyl coenzyme A (acetyl CoA).<sup>1,2,3,4</sup> Acetyl CoA is a primary building block in the synthesis of fatty acids.

- Super CitriMax® is a unique, patented form of HCA from *Garcinia cambogia* bound to the essential minerals *calcium and potassium* for maximum solubility, stability, bioavailability, and efficacy that not only works by inhibiting ATP citrate lyase, but by exerting distinctive mechanisms of action that account for its weight management and satiety effects.
  - InterHealth developed Super CitriMax (double-salt HCA) in response to the inconclusive data on single-salt calcium HCA.
  - Super CitriMax has been the subject of comprehensive research studies that provide solid evidence of both its efficacy and safety.
  - More than 20 such papers have been published in peer-reviewed scientific journals.
  - Studies include clinical research on weight loss, appetite control, calorie reduction, fat-burning effects and lipid modification.
  - Super CitriMax is the only HCA ingredient with published research showing bioavailability in humans.<sup>5</sup>

### RESEARCH

*Super CitriMax – Numerous published research studies show benefits for weight loss, fat burning, appetite variables and more*

- In a randomized, double-blind, placebo-controlled clinical study involving 90 moderately obese adults, researchers from Georgetown University Medical Center found that Super CitriMax significantly increased weight loss, fat burning, serotonin levels and satiety and decreased body mass index (BMI) compared to placebo after eight weeks. Super CitriMax also reduced LDL (bad) cholesterol and increased HDL (good) cholesterol levels.<sup>6,7,8</sup>
- A randomized, placebo-controlled, crossover study showed that Super CitriMax significantly lowered calorie intake compared to placebo in 24 overweight adults and significantly decreased 24-hour energy intake by 25% and snacking by 40% after two weeks.<sup>9</sup>
- Preliminary research shows unique mechanism of action with Super CitriMax, including its possible benefit for nutrigenomics with research showing its effect on genes involved in fat metabolism, serotonin availability and genes that directly promote obesity.<sup>10,11,12</sup>
- Safety research on Super CitriMax is extensive, establishing a wide margin of safety for human consumption.<sup>13,14,15,16,17,18,19</sup>

*Single Salt Calcium – Inconclusive research data, evidence is lacking to support weight loss, fat burning or satiety benefit*

- One published study suggests a possible weight-loss as well as a cholesterol lowering effect,<sup>20</sup> however subjects were placed on a very low calorie diet (1000, 1200 or 1500 Kcal/day). Subjects taking HCA were able to adhere to the calorie restriction, while subjects on placebo required a larger amount of food. This may account for the difference in weight loss between groups. In addition, study protocol may not have undergone official IRB review.
- No known published clinical studies using single salt calcium HCA from *Garcinia cambogia* show significant increase in satiety.
- Abstract information suggests that randomized, double-blind, placebo-controlled research was done showing weight loss and satiety effects.<sup>21</sup> However, the research is not published and abstract information does not divulge entire study design and protocol to properly assess results.
- A few studies claim that single salt HCA may increase fat burning.<sup>22,23,24</sup> However, these studies used few subjects, did not control for calorie consumption and possible fat-burning effects were seen after prolonged exercise only. Endurance exercise increases fat metabolism; therefore, it cannot be determined if the effect was due to HCA or exercise. Fat metabolism was measured by a series of calculations using the respiratory exchange ratio and oxygen consumption and was not directly measured by urinary metabolites—the gold standard in measuring fat oxidation. Other studies have shown no effect on fat oxidation with single salt calcium HCA.<sup>25,26</sup>



## THE SUPERIOR CHOICE – Super CitriMax®

### Super CitriMax Product Highlights

- Superior efficacy supported by extensive clinical and subclinical research
- Superior safety profile supported by extensive safety research, including 2-generation reproductive and teratogenicity safety data
- Unique substantiated product claims
- Protected by four U.S. patents and other patents and world-wide patents pending
- Fat oxidation or "burning" patent - only HCA that can make a "fat burning" claim
- 100% soluble, flavorless, odorless, colorless
- Heat stable, highly bioavailable
- GRAS affirmed

### Super CitriMax Unique Claims Substantiated by Clinical Research

- Reduces body weight
- Reduces body weight 3x greater than diet and exercise alone
- Reduces BMI 3x greater than diet and exercise alone
- Increases fat burning
- Controls appetite
- Reduces food intake
- Reduces calories by 25%
- Promotes healthy serotonin levels
- Promotes healthy cholesterol levels

Product Information	Super CitriMax® Double-Salt (Calcium-Potassium) HCA	Single-Salt Calcium HCA
<b>Patent Protected</b>	4 U.S Patents with worldwide patents pending	No
<b>GRAS-Affirmed (available for food &amp; beverage use)</b>	Yes	No
<b>%HCA</b>	60	50-60
<b>Published Clinical Research Data - Efficacy</b>		
Reduces body weight	Yes <sup>6,7,8,19</sup>	Inconclusive <sup>20</sup>
Reduces body weight 3x greater than diet & exercise alone	Yes <sup>6,7,8,19</sup>	No
Reduces BMI 3x greater than diet & exercise alone	Yes <sup>6,7,8,19</sup>	No
Directly increases fat burning/oxidation	Yes <sup>6,7,8,19</sup>	No <sup>†</sup>
Inhibits fat synthesis/production	Yes <sup>6,7,8,19</sup>	No
Controls appetite	Yes <sup>6,7,8,9</sup>	No
Reduces food intake	Yes <sup>6,7,8,9</sup>	No
Reduces caloric intake by 25%	Yes <sup>9</sup>	No
Increases serotonin levels	Yes <sup>6,7,8,19</sup>	No
Increases HDL cholesterol	Yes <sup>6,7,8,19</sup>	No
Lowers LDL cholesterol	Yes <sup>6,7,8,19</sup>	No
<b>Published Research Data – Mechanistic Studies</b>		
Increases serotonin availability & upregulates serotonin signaling genes	Yes <sup>10,11</sup>	No
Regulates neurotransmitters involved in appetite suppressing	Yes <sup>27,28</sup>	No
Lowers the expression of genes involved in fat metabolism	Yes <sup>10,11</sup>	No
Breaks down the perilipin protein layer surrounding fat cells	Yes <sup>12</sup>	No
<b>Published Research Data - Safety</b>		
Acute oral and dermal toxicity	Yes <sup>13,18</sup>	No
Primary dermal and eye irritation	Yes <sup>13,18</sup>	No
90-Day toxicity study	Yes <sup>14,15,18</sup>	No

\* Questionable study results from one study and abstract information is not significant enough to substantiate a weight loss benefit/claim.

† Questionable study results that indirectly show fat burning are not enough to substantiate fat burning benefit/claim. In addition, InterHealth holds fat oxidation patent.

Product Information	Super CitriMax® Double-Salt (Calcium-Potassium) HCA	Single-Salt Calcium HCA
Ames' bacterial reverse mutation assay	Yes <sup>18</sup>	No
Cell gene mutation test	Yes <sup>18</sup>	No
Mouse lymphoma and mouse micronucleus assay	Yes <sup>18</sup>	No
Two generation reproductive and teratogenicity assessment	Yes <sup>16,17</sup>	No
<b>Research Data - Technical</b>		
Solubility	100% soluble – the structural characteristics of a calcium/potassium bound HCA salt make it completely soluble in water as well as bioavailable	Single salt calcium HCA has limited solubility in water - may be <50% <b>Error!</b> Bookmark not defined.
Bioavailability	Highly bioavailable <sup>‡5,29</sup>	May be less bioavailable when bound to single-salt calcium HCA only <sup>‡</sup> <b>Error!</b> Bookmark not defined.
Pharmacokinetics	Remains increased after 2 hrs and stays in the blood for more than 9 hrs after ingestion <sup>‡5</sup>	Unknown <sup>‡</sup>
Stability	Heat stable <sup>29</sup>	Unknown
Sensory characteristics	Tasteless, odorless and colorless in solution <sup>29</sup>	Low solubility may affect clarity
<b>Product Specifications:</b>		
Solubility in Water	100%	Typically low solubility
pH (1% solution)	6-9	Varies
Particle Size	Greater than 95% through 100 mesh	Varies
Color	Cream/White	Typically off white
Odor	Odorless	Typically characteristic
Taste	Tasteless	Typically chalky
Lead	Less than 0.1 ppm	Varies
<b>Microbiological:</b>		
Total Plate Count (cfu/g)	<3000	Varies
Yeasts & Molds (cfu/g)	<10	Varies
E. coli	Negative	Varies
S. aureus	Negative	Varies
Pseudomonas aeruginosa	Negative	Varies
Salmonella	Negative	Varies
<b>Shelf-Life</b>	<b>3 years</b>	Varies
LD50	>5,000 mg/kg	Varies

<sup>‡</sup> Super CitriMax is the only HCA ingredient with published bioavailability research demonstrating absorption with measured plasma levels.

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