

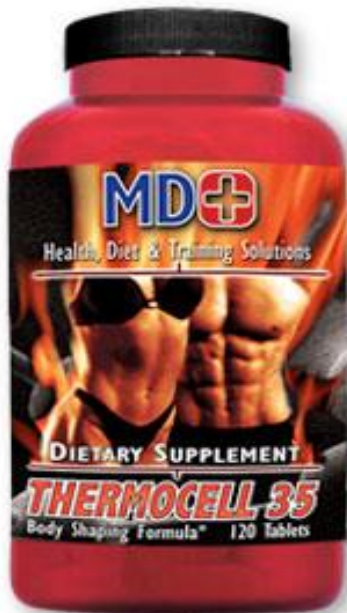
**MD+**

# ThermoCell 35

**version IV**

Advanced Thermogenic Body Shaping Formula for Maximizing Body Composition

Formulated by Mauro Di Pasquale, M.D.



**ThermoCell 35 version IV** has a unique formulation that originally contained 35 active ingredients but has evolved to over 50 ingredients in the newest version IV. Unlike other fat loss, thermogenic supplements that contain half a dozen or less ingredients and are ridiculously overpriced. The many ingredients in ThermoCell version IV that work synergistically along several pathways to increase thermogenesis and fat loss in problem areas in both men and women, and is especially useful when used prior to exercise.



**ThermoCell 35** - <https://metabolicdiet.com/product/thermocell-35-version-iv-new/>

Revised October 2, 2021

ThermoCell 35 works anytime and is especially effective as a pre-training thermogenic and energy optimizer by increasing the use of fat as fuel due to its effects on . As well, ThermoCell-35 works to optimize energy metabolism, while at the same time increasing thermogenesis and decreasing body fat. By increasing thermogenesis ThermoCell 35 improves body composition by increasing the use of body fat as fuel, as well as improving the many facets of mitochondrial flux and partially uncoupling oxidative phosphorylation.

ThermoCell 35 is formulated to target fat loss in problem areas around the butt, thighs, and stomach. With its help, you can create an environment that will shape your body and achieve your true esthetic, body composition potential.

Unlike most thermogenic and fat loss products on the market, many using older ingredients (some simply being renamed) and therefore behind the times, ThermoCell 35 is cutting edge in its mix of ingredients, using current science and up to date medical and scientific research to formulate the most effective body shaping product ever.

## ThermoCell 35 version IV–Nutritional Supplement Panel

<b>Supplement Facts:</b>		<b>Serving Size: 4 Tablets</b>	
		<b>Servings Per Container: 30</b>	
	Amount Per Serving	% Daily Value	
Vitamin D3 (as Cholecalciferol & Calcifediol)	300 IU	75%	Conjugated Linoleic Acid
Vitamin B1 (as Thiamine Mononitrate)	10 mg	666%	Acetyl-L-Carnitine
Vitamin B3 (as Niacin, Niacinamide & Inositol Hexanicotinate)	10 mg	50%	Alpha Lipoic Acid
Vitamin B6 (as Pyridoxine HCL & Pyridoxal-5-Phosphate)	10 mg	500%	Dandelion Extract (Taraxacum officinale) (root & leaf)
Vitamin B12 (as Methylcobalamin)	100 mcg	1667%	Hawthorn Berry Extract (Fructus crataegi) (fruit)
Pantothenic Acid (as d-Calcium Pantothenate and Pantethine)	20 mg	200%	Siler Root Extract (Ledebouria sesseloides) (root)
Calcium (as Calcium Phosphate, Citrate and Ascorbate)	150 mg	40%	White Willow Bark Extract (Salix alba) (bark)
Magnesium (as Magnesium-L-Threonate)	100 mg	25%	Yerba Mate Extract (Ilex paraguayensis) (leaf)
Iodine (as Potassium Iodide, Iodotyrosine, & Kelp)	75 mcg	50%	Caffeine
Chromium (as Chromium Picolinate)	25 mcg	21%	Yohimbe Extract (bark)
Potassium (as Potassium Phosphate and Aspartate)	99 mg	3%	Yohimbe Alkaloids 3 mg
Green Tea Extract (Camellia sinensis) (leaf)	350 mg	*	Bioperne (Piper nigrum) (fruit)
Polyphenols	250 mg	*	<b>ThermoCell 35 Proprietary Complex 2,380 mg</b>
Citrus Aurantium Extract	350 mg	*	Guarana Seed Extract, Cayenne Pepper, Green Coffee Bean Extract,
Synephrine	17.5 mg	*	Raspberry Ketone, Cinnamon Bark Extract, Curcumin, Quercitin,
Theobroma Cocoa Extract	325 mg	*	L-Histidine, Citric Acid, Apple Cider Vinegar, Octopamine, Evodiamine
L-Arginine HCL	325 mg	*	(Evodia rutaecarpa) (fruit), Magnolia Bark Extract, Fennel Seed,
L-Taurine	250 mg	*	Ginger Root Extract, Rhodiola Rosea Root Extract, Ophiopogon
L-Tyrosine	250 mg	*	Extract (root), Spirulina, Brown Rice (Oryza sativa).
L-Phenylalanine	250 mg	*	
<b>Other Ingredients: Microcrystalline Cellulose, Hydroxypropylmethyl Cellulose, Croscarmellose Sodium, Vegetable Glycerin.</b>			
<b>*Daily Value Not Established</b>		<b>Warning: Phenylketonurics - contains phenylalanine</b>	

## Fat, Skinny People

You don't have to look fat to be overfat. In fact, most of us have some aspect of the fat, skinny person in them. That is, we don't weigh enough to be considered obese and in clothes we look OK. In fact, however, we're carrying more fat than we should be and we're usually carrying it in the wrong places.

A group of Italian scientists have found enough evidence for a normal-weight obese (NWO) syndrome.<sup>1</sup> This syndrome is characterized by people who are of normal weight but have a higher than normal fat mass. And with the higher fat mass comes some of the disadvantages of those who are metabolically obese, such as increases in pro-inflammatory cytokines and various metabolic abnormalities.

In this paper, the authors state what to me and many others in the sports and fitness fields is only common sense, that:

***A considerable number of individuals can be classified as obese on the basis of BMI alone, and a misclassification could occur if the percentage of body fat mass is not considered to evaluate obesity. Therefore, screening for body fat distribution in persons with a normal or slightly elevated BMI is an important tool in the prevention of obesity-related diseases.***

I've been championing the view for over 3 decades that just measuring a person height and weight (Body Weight Index of BMI) is a relatively useless measurement in that it doesn't tell you anything about body composition and thus the amount of fat a person is carrying. And even recently those that champion combining the BMI with waist circumference or other factors have got it wrong.<sup>23</sup>

On a personal level when I was competing internationally in Powerlifting, I reached a maximum BMI of 34.5 and since a BMI of 30.0 or higher falls within the obese range then I must have been obese. But I wasn't obese since my body fat was below 10%. And my waist, although perfectly in proportion to my overall build and my decades of heavy body core training, if factored in would still have considered me obese.

That's why at the time when the BMI was being championed (decades ago) I came up with my Metabolic Index (MIDx), which like the BMI involves the use of a person's weight and height, and most importantly factors in body fat levels to give an index which accurately reflects body composition. And it's only lately in a Chinese paper published in 2013 that measuring body fat percentage along with BMI is the preferred method for measuring obesity against all other measures.<sup>4</sup>

The point is that most of us, especially if we're into improving or optimizing body composition, especially those who compete in weight categories and in bodybuilding, and those who are looking to be fit and lean as far as body fat (and who isn't) don't need to lose a lot of weight. What we do need to lose is some fat, and even more importantly stubborn fat in areas that we all feel are not only unhealthy but unsightly.

So, what a lot of us really need is body shaping rather than to lose a lot of weight. If that's the case, then ThermoCell 35 is for you.

As well, because of its effects on breaking down body fat and burning it up as fuel, and its effects on increasing energy levels, it's the perfect pre-training primer for those who want to maximize the effects of exercise on body composition.

**The information below on the new ThermoCell 35 version IV is in constant draft form and is expanded and revised repeatedly over time as new information comes to light in both relevant research and in the trenches. For now, this latest information will give you the flavor of just what ThermoCell 35 will do for you in helping you achieve your health, body composition and performance goals.**



## ThermoCell 35 – The Ultimate Fat Burner

Improving body composition is multifaceted but the two main components are decreasing body fat and increasing or at least maintaining skeletal muscle mass as body fat decreases. Both can be mostly achieved by targeted dieting, exercise. However, many people trying to maximize body composition often run into areas of body fat that are to one extent or another more resistant to both dieting and exercise.

These stubborn fat areas can be anywhere but are more so in the abdomen, buttock, and thighs, the latter two more common in women while the first is common in both men and women. These stubborn areas usually contain larger fat cells, exhibit decreased thermogenesis, decreased lipolysis (break down of body fat), increased lipogenesis (buildup of body fat), increased mitochondrial efficiency especially oxidative ATP production, and increased inflammation.

The problem in my view is that in long term dieting and exercise to maximize body composition and/or strength, often leads to a negative overall metabolic response that is meant to establish a status quo rather than continuing what the body perceives as a stressor. Simply put the body puts out roadblocks that hinder further improvements in body composition.

### **Lipolytic Effects**

ThermoCell 35 increases fat breakdown and metabolism and improves body composition by enhancing mitochondrial TCA flux, breaking down intracellular and extracellular fat (mainly from body fat) in order to increase the use of body fat as a primary TCA intermediate in the form of acetyl-coA.

### **Thermogenic Effects**

The thermogenic and fat loss effects of ThermoCell 35 comes from increasing fat utilization for energy production by increasing TCA flux and partially uncoupling oxidative phosphorylation. At the same time carbohydrate utilization is decreased up to a level of VO<sub>2</sub> max over which carbohydrate utilization is increased to provide limited but quick amounts of ATP through glycolysis resulting in lactate production, and when skeletal muscle glycogen and glucose availability is exhausted, through the increase in glucose availability via gluconeogenesis mainly in the liver and kidney, which is then transported to the working skeletal muscle to continue producing ATP via the glycolytic process under anaerobic conditions.

# Partial List of ingredients in ThermoCell 35 version IV

## Thiamin, Arginine, Caffeine, and Citric Acid Combination

A study looked at the effects of a combination of **thiamin, arginine, caffeine, and citric acid** on lipid metabolism.<sup>5</sup> The rationale for the study was based on a previous study in mice,<sup>6</sup> and the effects of all four ingredients on fat loss. Thiamin (vitamin B1) is intricately involved in energy metabolism. Arginine increases glucagon and growth hormone levels which in turn increases lipolysis. And caffeine has been shown to increase both lipolysis and energy expenditure.

The authors also felt that based on previous research<sup>7</sup> elevation of the citric acid concentration in muscle may contribute to increased use of intramuscular triglyceride (TG) or extramuscular free fatty acids (or both) at rest and at the beginning of exercise. The authors concluded that this combination of ingredients resulted in an increase in percent fat loss over a placebo and was also effective in reducing visceral fat.

The study confirmed the safety profile of the ingredients used, as well as the thermogenic properties of this combination in that they significantly increased resting metabolic rate and were useful in supporting weight maintenance after a weight reduction.

## Yohimbe

**Yohimbine**, the active ingredient in **yohimbe bark**, has been shown to increase weight and fat loss. For example, in one study the use of yohimbine significantly increased energy expenditure and the mean weight loss in patients on a low-energy diet.<sup>8</sup>

Yohimbine, an alkaloid that blocks alpha-2 adrenoreceptors (a2ar) has also been shown to increase thermogenesis and increase fat breakdown. It works especially well on stubborn body fat and increases fat breakdown in these tissues and helps to carry the fatty acids away by increasing blood flow in these areas.<sup>9</sup>

As well, the lipid mobilizing action of yohimbine, while prominent at rest,<sup>10</sup> is enhanced by exercise,<sup>11</sup> likely because exercise also reduces the effects of the a2ar on fat breakdown,<sup>12</sup> thus making ThermoCell 35 an especially useful pre-training supplement.

## Citrus Aurantium

Citrus aurantium contains several compounds that increase fat breakdown and oxidation.

**Citrus Aurantium** is an effective replacement for ephedra in that it has the same effects on weight and fat loss but not the potentially severe adverse effects.<sup>13</sup> Thus in this formula, the **citrus aurantium**, plus **caffeine** and **white willow bark** make an effective alternative for the popular ECA stack that proved popular for weight and fat loss before the use of ephedra in nutritional supplements was banned.<sup>14, 15</sup>

Citrus aurantium contains several adrenergic amines including synephrine, N-methyltyramine, hordenine, octopamine, and tyramine. It's widely used for stimulating the breakdown of fat, by causing the release of noradrenaline (a stress hormone) at beta-3 receptor sites creating chemical reactions that increase fat breakdown.

Beta-3 receptors in the body increase the rate at which fat is released from the body stores (lipolysis) and increase resting metabolic rate (thermogenesis). Physical activity will increase this thermogenic effect and further enhance the thermogenic effect of Citrus Aurantium towards healthy and permanent weight and fat loss.

Because these amines stimulate beta-3 cell receptors with minimal effect on other alpha and beta-receptors, citrus aurantium has reduced adverse effects on heart rate and blood pressure.

Stimulation of these beta-3 receptors by citrus aurantium elicits the breakdown of fat. Simultaneously, this stimulation causes an increase in the metabolic rate – thermogenesis – that burns calories. Citrus aurantium may also act as an appetite suppressant.

Citrus aurantium has several useful ingredients in it and represents more than just synephrine. It also contains other alkaloids such as N-methyl tyramine, tyramine, hordenine and octopamine that also increase fat breakdown. So, products that just use synephrine are not as effective as using citrus aurantium standardized for synephrine but also containing much more.

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Physical activity will increase this thermogenic effect and further enhance the thermogenic effect of Citrus Aurantium towards healthy and permanent weight and fat loss. As well, citrus aurantium has been shown to increase the thermic effect of food, further increasing weight and fat loss.<sup>16</sup>

As well, the use of yohimbe and citrus aurantium provides a synergistic effect on thermogenesis and fat loss.<sup>17</sup>

Citrus aurantium has been shown to be exceedingly safe with no significant adverse effects.<sup>18</sup>

## Evodiamine

Evodiamine has many effects that impact on weight and fat loss, including significant appetite suppressant and thermogenic effects.

Studies have shown that evodiamine decreases appetite and increases fullness, likely by decreasing gastric motility and increasing CCK release.<sup>19, 20, 21, 22, 23</sup>

**Evodiamine** has thermogenic and anti-obesity effects similar to capsaicin (found in **cayenne**, which is also in ThermoCell 35).<sup>24</sup> Their use together with other ingredients in ThermoCell 35, such as **green tea extract**, **hawthorne berry**, **ginger root**, and **quercetin**, are either thermogenic and/or supportive to weight loss either directly, or indirectly by providing certain health benefits. For example, **Green tea**, and **quercetin** are potent antioxidants and help decrease the effects of restrictive diets on oxidant stress and on antioxidant status.

Thermogenic effects may also be due to the stimulation of catecholamines,<sup>25</sup> which in turn increase thermogenesis.

Several studies have shown links between inflammatory markers (such as C-reactive protein) and body fat – especially visceral adipose tissue.<sup>26, 27, 28, 29, 30, 31</sup> Evodiamine's anti-inflammatory effects<sup>32, 33</sup>

are useful in countering the inflammation that seems to increase the deposition of fat in the body, especially in the abdominal area.

## Cayenne Pepper

Capsaicin, the active ingredient in cayenne/red pepper, has been shown to increase insulin sensitivity, thermogenesis and fat oxidation and decrease appetite in humans,<sup>34,35</sup> A recent study found that in the short term, capsaicin supplements increased satiety and reduced energy and fat intake.<sup>36</sup>

A series of human studies showed an increase in diet-induced thermogenesis and a decrease in respiratory quotient immediately after a meal to which red pepper was added, either orally or in capsule form.<sup>37,38</sup> These effects would make capsaicin especially useful for people on low carbohydrate diets as it helps to shift of substrate oxidation from carbohydrate to fat.

## Green Tea Extract

**Green tea** also has beneficial effects on physical and mental health, weight loss, and has significant anti-inflammatory properties.<sup>39,40,41,42,43,44,45,46</sup> As well, through the effects of its three major components, catechins, caffeine and theanine, it has weight loss and fat loss effects.<sup>47</sup>

Studies conducted with human subjects, report reduced body weight and body fat, as well as reduced waist circumference, increased energy expenditure, fat oxidation and thermogenesis.<sup>48,49,50,51,52,53</sup> Green tea has also been shown to increase fat breakdown and use during exercise.<sup>54</sup>

Combinations of green tea with other ingredients, including **caffeine, calcium, guarana, theobroma cocoa complex, capsaicin, yerba mate,** and **beta adrenergic agonists**, all present in ThermoCell 35, have been shown to increase the effects of green tea on fat metabolism, energy expenditure, and thermogenesis.<sup>55,56,57,58,59,60,61</sup>

Green tea extract may well prove to be more useful than green tea itself. One study found that green tea extract supplements retain the beneficial effects of green and black tea and allow larger doses of tea polyphenols to be used without the side effects of caffeine associated with green and black tea beverages.<sup>62</sup>

## Quercetin

The bioflavonoid quercetin has many beneficial effects on health, body composition, weight loss and much more. Quercetin has been shown to have significant anti-inflammatory, antioxidative, anti-carcinogenic, anti-diabetic, and antihistaminic activity resulting in decreases of both acute and chronic inflammation and protective effects against toxins and the pro-inflammatory cytokines and inflammation-promoting pathways.<sup>63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79,80,81</sup>

Several studies have shown the significant neuroprotective and anti-aging effects of quercetin.<sup>82,83,84,85,86,87</sup>

Quercetin has been shown to enhance exercise/sports performance, increase mitochondrial biogenesis, decrease mitochondrial dysfunction, and thus positively affecting energy metabolism and exercise/sports performance.<sup>88,89,90,91,92,93,94,95</sup> There is also evidence that quercetin is protective against intense exercise injury of the heart, especially ultrastructural damage and mitochondrial dysfunction.<sup>96</sup>

A review article concluded that there is evidence to suggest that flavonoids may be beneficial to connective tissue for several reasons, which include the limiting of inflammation and associated tissue degradation, the improvement of local circulation, as well as the promoting of a strong collagen matrix.<sup>97</sup>

Quercetin has favorable effects on body composition, reducing obesity and counter-productive obesity induced changes in skeletal muscle.<sup>9899100</sup>

Studies have found that quercetin works synergistically or additively with other anti-inflammatory and antioxidant compounds. For example, one study found that quercetin showed an increase in activity when combined with vitamin C.<sup>101</sup> The same study found that the in vitro antioxidant activity of quercetin was better than vitamin C. Quercetin has also been shown to have antimicrobial properties.<sup>102</sup>

Another study found that quercetin is even more effective for decreasing inflammation and loss of functional cells when used with high dose glucosamine.<sup>103</sup>

Piperine (Bioperine™ -also in ThermoCell 35) has been shown to enhance the beneficial effects of quercetin on stress and brain function.<sup>104</sup>

For all these reasons quercetin plays a prominent part in the beneficial effects that ThermoCell 35 has on all aspects of health, body composition, fat loss, exercise, and anti-aging.

## Amino Acids

The amino acids arginine (see above), histidine, phenylalanine, taurine and tyrosine, which work on decreasing body fat both individually and by working together synergistically.

## Phenylalanine

Phenylalanine, an essential amino acid, suppress appetite by increasing CCK secretion and results in a reduction in food intake.<sup>105</sup> As well, phenylalanine, and tyrosine, which is formed from phenylalanine, are precursors for the neurotransmitters dopamine, epinephrine and norepinephrine and as such can have potentiating effects on weight and fat loss.

## Tyrosine

Supplementation with **tyrosine**, since it's a precursor, enhances noradrenaline synthesis and thus aids in weight and fat loss.<sup>106</sup> It has been shown that tyrosine supplementation together with other sympathomimetics decreased food intake in rats in a synergistic fashion.<sup>107</sup>

As well, tyrosine may potentiate the effect of other ingredients in ThermoCell 35 such as capsaicin that stimulate noradrenalin release and direct noradrenaline agonists such as is present in citrus aurantium.

Catechins as present in green tea extract inhibit the enzyme catechol O-methyltransferase and may prolong the effect of all the direct and indirect acting noradrenalin ingredients, as can methylxanthines such as caffeine by prolonging the cAMP response.<sup>108</sup>

## Tyrosine, Capsaicin, Catechins, Calcium, and Caffeine Combo



Another study looked at the effect of a combination of **tyrosine, capsaicin, catechins, calcium, and caffeine** (all in ThermoCell 35) on body fat loss.<sup>109</sup>

A previous study by the same authors found that the combination had a synergistic effect and increased 24-hour energy output.<sup>110</sup> The present study looked at the effect of the combination of ingredients after 8-week supplementation to see if they could prevent a weight regain after initial 4-week weight loss. As in the first study, the combination of ingredients resulted in an increase in thermogenesis over a placebo, a reduction in fat mass, and a support of weight maintenance.

## Histidine

Histidine, a conditionally essential amino acid, is a precursor for the synthesis of histamine. Histidine has been shown to suppress food intake, possibly due to activation of histamine neurons in the hypothalamus.<sup>111, 112</sup>

Studies done in people living in Japan found a significant negative correlation between energy intake and histidine per protein intake, with the possibility that increasing dietary histidine suppresses food intake, especially in females.<sup>113, 114, 115</sup>

## Taurine

Taurine, a sulfur-containing amino acid, is considered by some to be conditionally essential. It has several effects in the body that contribute to weight and fat loss, and body composition, including beneficial effects on lipid metabolism and protein synthesis.<sup>116</sup>

An early study showed that taurine decreases bodyweight in obese mice.<sup>117</sup> Another study on 30 Japanese college students found that taurine is effective in reducing body weight and fat mass, possibly due to its beneficial effects on lipid metabolism.<sup>118</sup> As well, it may have an important role in cardiovascular disease prevention in overweight or obese subjects. More recent studies have found that taurine supplementation can increase energy expenditure and the function of lipolytic enzymes, decrease body fat, especially visceral body fat, and has additive effects with exercise.<sup>119, 120</sup>

Taurine has also been shown to increase glucose sensitivity and enhance mitochondrial metabolic function.<sup>121</sup> The data in this study suggest that taurine administration has a marked effect on lipid metabolism and can therefore be beneficial to persons looking to lose body fat. Also, that restoration of plasma taurine level could be critical in preventing or improving obesity-related -cell dysfunction.

Besides the effects on fat metabolism, taurine also has effects on cellular hydration that increases protein synthesis and thus decreases the loss of muscle with weight loss.<sup>122</sup>

Taurine has been shown to be an important amino acid in several tissues in the body, including muscle.<sup>123</sup> Because of its properties in skeletal muscle it's been suggested as a treatment for various muscle disorders.<sup>124</sup>

A study found that taurine administration reduced the decrease in taurine in skeletal muscles in exercise, increased duration of running time in rats, and was considered to reduce exercise-induced muscle fatigue.<sup>125</sup> Also taurine supplementation has been shown to increase skeletal muscle force production, protects muscle function and reduce oxidative stress.<sup>126</sup>

While the evidence is circumstantial at present and a direct study linking the two research findings needs to be done, it's quite possible that supplemental taurine, besides all the positive effects we know it has, may also reduce exercise induced fatigue.

Taurine, because of its effects on increasing insulin sensitivity, growth hormone levels, and protein synthesis (secondary to its effects on osmoregulation and cell volumizing<sup>127, 128, 129</sup>), helps to spare muscle when dieting, with the result that weight loss is mostly from the loss of body fat.

As well, the use of taurine decreases metabolic risk factors and improves the lipid profile when used with a weight loss diet.<sup>130</sup>

For the most current information on taurine see my recent online article at [https://metabolicdiet.com/wp-content/uploads/2017/product\\_pdf/Taurine.pdf](https://metabolicdiet.com/wp-content/uploads/2017/product_pdf/Taurine.pdf).

## **Conjugated Linoleic Acid (CLA)**

CLA has been shown to have properties above and beyond those of linoleic acid. CLA has a wide range of biological effects.<sup>131</sup> It has shown potential as a powerful anticarcinogen<sup>132, 133, 134</sup> and exhibits potent antioxidant and anti-inflammatory activity.<sup>135, 136, 137, 138, 139, 140, 141</sup> Studies have suggested that CLA may be cytotoxic to human cancer cells in vivo.<sup>142</sup>

CLA has been shown to have anti-inflammatory properties<sup>143</sup> and to inhibit inflammatory mediators such as PGE2, IL-6, and TNF-alpha,<sup>144, 145</sup> and acts as a COX-2 inhibitor.<sup>146, 147</sup>

Conjugated Linoleic Acid (CLA) has significant effects on body composition. It's a mixture of isomers of linoleic acid, which is found preferentially in dairy products, meat, and in cheese, milks and yogurt that have undergone heat treatment.

Studies in animals and humans indicate that CLA supplementation decreases body fat and increases lean muscle mass. The increase in lean muscle mass is most pronounced in individuals who are exercising regularly.

CLA appears to reduce the ability of fat cells to take up fats from the bloodstream; it also inhibits the formation of new fat cells.<sup>148</sup> CLA also helps cells burn fat at a higher rate, while fueling and preserving muscle, leading to a reduction in fat and an increase in lean muscle mass.

Numerous physiological effects in relation to body-weight control have been attributed to CLA in animals. In different animal models, CLA has been shown to reduce body fat and to increase lean body mass.<sup>149, 150, 151</sup> But CLA has marked effects in humans as well and has been found to decrease body fat mass and support muscle mass in overweight humans.<sup>152, 153, 154, 155</sup>

For example, a study published in the International Journal of Obesity found that those who were given CLA for a four-week period had significant decreases in abdominal fat.<sup>156</sup>

As well, a study concluded that long term CLA supplementation not only helps to decrease body fat but also helps to maintain weight loss in the long term. A long-term study found that a mixture of the two CLA isomers significantly lowered body fat mass in overweight humans at both 1 and 2 years.<sup>157, 158</sup> It likely does this by affecting various enzymes involved in lipid formation and to a lesser extent enhancing fat breakdown.<sup>159, 160, 161</sup>

CLA also seems to have significant effects on weight regain, as it reduces fat uptake into adipocytes by decreasing the formation of fat and but not affecting fat breakdown. It likely does this by affecting various enzymes involved in lipid formation rather than enhancing fat breakdown, known as lipolysis.<sup>162,163,164,165</sup>

Thus, there is an overall increase in fat breakdown since the two processes are usually in dynamic equilibrium with as much fat being produced as is broken down. Decreasing fat formation changes the dynamics to one of overall increased fat breakdown and subsequently a decrease in overall body fat. Of equal importance, for those wishing to maximize lean body mass, is the possible anti-catabolic effects of CLA.<sup>166,167</sup>

Another study found that CLA reduces body fat mass in specific regions of the body, especially the abdominal area in both men and women, and maintains or increases lean body mass.<sup>168</sup>

Adding to CLA's effects on body composition, one study found that CLA supplementation even increased fat oxidation and energy expenditure during sleep.<sup>169</sup>

The bottom line is that ThermoCell 35 has significant effects on weight and fat loss, and increases overall health and wellbeing.

## Guarana

Guarana, a shrub from Brazil, has many properties and is widely used in soft drinks. Guarana seeds contain caffeine, theobromine and theophylline, and tannins. While the effects of guarana are felt to be a result of the guaranine content (like caffeine) some studies show that the treatment of rats with an equivalent amount of caffeine found in guarana doesn't account for many of the responses observed after guarana supplementation.<sup>170</sup>

## Conjugated Linoleic Acid (CLA) and Guarana Combo

As we've seen, both **CLA** and **guarana** have been shown to increase weight and fat loss and improve body composition. Even more revealing, however, is the synergism shown by the combination of guarana (from a plant found in the Amazon and used for its effects on decreasing appetite and increasing weight loss) and CLA.

While studies have shown that CLA can reduce the volume of fat cells, in one study two groups of mice given CLA or CLA plus guarana had a significant reduction in fat mass. However, the group of mice that were fed the CLA/guarana combination not only showed a decrease in the size of the fat cells but also a decrease in the number of fat cells.<sup>171</sup>

As well, while trans fatty acids have been demonized as contributing to CVS problems, it's important to differentiate natural and beneficial trans fats such as CLA against industrial forms in processed foods.<sup>172</sup>

## Chromium

It has been shown through various studies that chromium is an essential element involved in carbohydrate and lipid metabolism. Since the need for chromium increases with exercise,<sup>173</sup> and modern refined foods are low in chromium, there may be a need for chromium supplementation in

athletes and other active people,<sup>174</sup> and especially in those wanting to lose weight and/or improve their body composition.<sup>175</sup>

Insufficient dietary chromium has been linked to maturity-onset diabetes and cardiovascular diseases, with supplemental chromium resulting in improvements of risk factors associated with these diseases.<sup>176, 177, 178</sup>

One of the most frustrating aspects of being overfat is that your body has become conditioned to converting excess calories, especially if combined with high carbohydrate intake, into body fat. Part of the problem with this fat conditioning involves insulin. The problem is that as you gain more body fat you become more insulin resistance so that you need more insulin to do the same job as when you had less body fat. This increase in insulin decreases your ability to use body fat as fuel, and stores more energy as body fat. The end result is a fatter you.

Chromium helps to increase insulin sensitivity and thus your body's ability to burn off body fat as a preferred fuel, and decreases body fat production. Along with its effects on muscle, chromium picolinate has been shown to have significant effects on body composition.<sup>179,180, 181</sup>

Although most diets just barely provide the RDA for chromium, for many it's not enough to make up for daily losses, especially if they exercise. With ThermoCell 35 you get another 50 mcg per day (using two doses daily), so that you have all the chromium you need for fat loss purposes.

CP is more efficiently absorbed than other forms of chromium and has also been recently shown not to have any significant adverse effects even at high doses of up to 1000 mcg per day.

## **Chromium and CLA**

It's been shown that combining chromium with CLA enhances insulin sensitivity and body composition even more when used together. A recent study found that CLA alone lowered body weight, total body fat mass, and visceral fat mass, the last of which decreased further with the combination of CLA and Chromium.<sup>182</sup>

## **Yerba Maté**

Yerba mate has been used traditionally for weight loss in parts of South America, and some research has shown that because of its mild stimulant and thermogenic effects, and effects on appetite, it may be beneficial as a weight loss aid.<sup>183, 184</sup>

Yerba mate contains several vitamins, minerals, antioxidants, and amino acids, as well as saponins such as mateine, the active ingredient responsible for its thermogenic and stimulant effects.

Researchers in Switzerland performed a study on human subjects that indicated yerba maté (*Ilex paraguariensis*) could be beneficial as a weight-loss aid.<sup>185</sup> They noticed a thermogenic effect in healthy individuals where a drop in respiratory quotient was observed—indicating a rise in the proportion of fat oxidized. The participants in this study showed an increase in the amount of fat their bodies burned for energy.

Clinical studies indicate yerba maté leaf inhibits lipoxigenase, an enzyme involved in inflammation and inflammatory diseases. Yerba maté extracts also have been shown to relax smooth muscle, act as a choleric (increase bile flow), and inhibit vasoconstriction.

A 2002 U.S. patent cites yerba maté for inhibiting monoamine oxidase (MAO) activity by 40–50% in vitro, reporting that it might be useful for a variety of such disorders as “depression, disorders of attention and focus, mood and emotional disorders, Parkinson’s disease, extrapyramidal disorders, hypertension, substance abuse, eating disorders, withdrawal syndromes and the cessation of smoking.”

Yerba maté has significant antioxidant activity, demonstrated in numerous studies. Its high antioxidant values are linked to rapid absorption of known antioxidant phytochemicals found in maté leaves. An infusion (tea) of the leaf has been demonstrated to inhibit lipid peroxidation—particularly LDL (low-density lipoprotein) oxidation. Oxidation of LDL is considered to be the initiating factor in the pathogenesis of atherosclerosis.

Another study in vitro has shown yerba maté to inhibit the formation of advanced glycation end products (AGEs), with an effect comparable to that of two pharmaceutical AGE inhibitor drugs. The formation of AGEs play a part in the development of diabetic complications.

## Niacin

Niacin (nicotinic acid, vitamin B3) has been shown to affect serum lipids, reducing LDL ("bad") cholesterol but increasing HDL ("good") cholesterol. Niacin also has antioxidant properties, is involved in DNA synthesis and repair, improves circulation through its effects on the vascular system, and is involved in energy and macronutrient metabolism.

## Dandelion

Dandelion (*Taraxacum officinale*) has mild diuretic effects<sup>186</sup> and as such is useful for fluid retention without affecting potassium levels in the body. It also has antioxidant and anti-inflammatory properties as well as beneficial effects on insulin sensitivity and fat metabolism.<sup>187</sup>

## Calcium

Several studies have shown that calcium plays a key role in body weight regulation and especially on fat metabolism (with possible effects on lipolysis, fat oxidation, lipogenesis, energy expenditure, and appetite suppression) and thus is a useful supplement for those looking to decrease weight and body fat.<sup>188189190191192193194195196197</sup>

For example, Zemel et al. (2002) ;looked at the effects of calcium supplements on obese adults who were dieting. They found that a high-calcium diet (1200-1300 mg/day) resulted in greater weight and fat loss in humans compared to a low-calcium diet (400-500 mg/day).<sup>198</sup>

Another study published in November, 2004 found that a high intake of calcium may hinder weight and fat regain.<sup>199</sup> The study found that after putting mice on a low calorie diet and producing weight and body fat loss, that those on a low calcium diet regained their weight after 6 weeks. However, for those on a high calcium diet it was a different story. They found that the high calcium diets produced significant increases in lipolysis, decreases in fatty acid synthase expression and activity, and reduced fat regain. They also found that increasing calcium through the use of dairy products had significantly greater effects on fat regain.

The bottom line is that increasing calcium intake is a boon to those who want to not only lose weight, but to lose fat, improve body composition, and keep that fat and weight from coming back.

## A Sampling of Other Ingredients in ThermoCell 35 version IV

**Apple cider vinegar** has been used for decades for weight loss and is anecdotally felt to suppress appetite and affect fat metabolism. Studies have shown that vinegar (acetic acid) improves insulin and glucose metabolism, and both increases and prolongs satiety.<sup>200</sup>

**Bioperine**, a patented preparation of the black pepper thermogen, piperine, has demonstrated the ability to improve the absorption of nutrients. This results in less degradation of the active compounds; thereby ensuring higher percentages get through to work their magic. For more information on Bioperine see below.

**Cellulose, cellulose gum, and organic brown rice powder** act to decrease appetite and decrease fat absorption. Also, unlike soluble fibers, these insoluble fibers do not increase short chain fatty acid formation and absorption from the bowels. As well, the use of some whole foods introduces a variety of nutrients that may be beneficial in fat loss.

**Magnolia bark** has been traditionally used to as a stress reliever and to increase energy. However, it may also increase fat breakdown and use of fatty acids for energy production. Magnolia bark extract in ThermoCell 35 is from *Magnolia Glauca* rather than the more commonly used *Magnolia officinalis*. That's because magnolol, a compound purified from *Magnolia officinalis*, increases adrenal steroidogenesis and cortisol production<sup>201202</sup> which are counterproductive for fat loss.

Magnolol, present in *Magnolia officinalis* extract, increases cortisol by inhibiting the enzyme 11- $\beta$ -hydroxysteroid dehydrogenase (11 $\beta$ HSD). 11 $\beta$ HSD catalyzes the conversion of physiologically active glucocorticoids (corticosterone and cortisol) into their inert 11-keto metabolites in kidney, brain, and other organs, and can thus act as a tissue-specific regulator of glucocorticoid access to intracellular corticosteroid receptors.

**Green coffee extract (GCE)** comes from green unroasted coffee and contains chlorogenic acid among its bioactive substances. Studies have shown that GCE both breaks down body fat and prevents fatty acid synthesis.<sup>203204205206207</sup>

**Raspberry ketone**, a natural phenolic compound found in certain fruits including red raspberries as well as cranberries and blackberries, has been found to increase fat breakdown and fatty acid oxidation.<sup>208209</sup>

**Alpha lipoic acid (ALA)**, an essential cofactor of mitochondrial respiratory enzymes, is also a potent antioxidant<sup>210211212213</sup> that can recycle other antioxidants such as vitamin C, vitamin E and glutathione.<sup>214215</sup> ALA also ALA was added to increase insulin functioning and sensitivity<sup>216217218</sup> and decrease body fat by its actions on the pro-inflammatory cytokines<sup>219220</sup> and on secondary cortisol elevations. Interestingly enough a combination of ALA and CLA (also in ThermoCell 35), had a synergistic effect on increasing insulin sensitivity.<sup>221</sup>

Besides having potent antioxidant and anti-inflammatory effects, ALA also has significant anabolic effects secondary to its beneficial effects on insulin sensitivity, growth hormone and IGF-I secretion, and energy metabolism, all factors involved in maintaining, repairing and regenerating musculoskeletal tissues and improving body composition.<sup>222,223,224,225,226227228</sup> As well, it helps neutralize and remove various toxic metals, including mercury, from the body.<sup>229230</sup>

But there is more to ALA than its antioxidant and anti-inflammatory effects as ALA has also been shown to have significant anti-obesity effects. One study found that ALA decreases hypothalamic



AMPK activity and causes profound weight loss in rodents by reducing food intake and enhancing energy expenditure.<sup>231</sup> More recent studies have also found that ALA significantly affects obesity and body composition in humans.<sup>232233234</sup>

**Alpha lipoic acid (ALA)** has potent antioxidant and anti-inflammatory effects. While other studies have shown that ALA influences weight and fat loss<sup>235</sup>, recent studies have confirmed the benefits of ALA for weight loss, fat loss, BMI reduction, and reduction of waist circumference.<sup>236237</sup>

**Vitamins B1, B6, B12, and pantothenic acid** are necessary for mitochondrial functioning, energy metabolism and to facilitate the full thermogenic and fat loss functions of ThermoCell 35.<sup>238</sup>

Several ingredients in ThermoCell 35, including **phosphate** in the form of **calcium phosphate**, and **tyrosine**, an amino acid and a precursor for thyroid hormone and some neurotransmitters, promote thyroid function, increase the metabolic rate and support thermogenesis. All actions that promote fat breakdown and oxidation.

**Bioperine®**, a patented preparation of the black pepper thermogen, piperine, has demonstrated the ability to improve the absorption of several nutrients including curcumin/turmeric, CoQ10, and Resveratrol.<sup>239</sup> The use of Bioperine results in less degradation of the active ingredients in LipoFlush; thereby ensuring higher percentages get through to increase their beneficial effects.

Bioperine improves bioavailability of ingredients in ThermoCell 35. However, it also has several other beneficial properties, including thermogenic effects, reducing cholesterol and protecting against neurodegeneration and cognitive impairment. As well, it has been shown that it may have immunomodulatory, anti-oxidant, anti-asthmatic, anti-carcinogenic, anti-inflammatory, anti-ulcer, and anti-amoebic properties.<sup>240241242243244245246</sup>

For current information on the beneficial effects of piperine as the trademark Bioperine go to <https://www.bioperine.com/index.php/aboutbioperine>.

## The Competition

ThermoCell has a complex ingredient profile unlike any other thermogenic and fat loss product on the market today.

These ingredients set it apart from the rest of the less sophisticated and less effective formulations that are out there, including those that are presently leaders in this field. Unfortunately, they're leaders not because they have the best and/or most cutting edge thermogenic product but because they've been around so long and have deep marketing pockets. Pockets that allow them to "spread the word" and convince people that their product is the best, even though it isn't.

As is usually the case the most heavily marketed nutritional supplement products are often the least effective and way overpriced for what you get. That's because they have to charge much more for their products in order to pay their huge marketing budget and also of course to maximize profits.

But the marketing is usually effective in making people believe that their overvalued products can perform weight loss magic. By using deceptive marketing, for example, they can often convince you that their products, containing a half dozen or less active ingredients, often in low doses, and packaged as capsules or gels (both of which hold much less ingredients than specially packed pills), is the greatest thing since sliced bread.

Besides being deceptive about the product itself, these companies use other tactics to convince you to buy. Tactics like phony testimonials, before and after pictures and endorsements, money back guarantees, advertorials (advertisements meant to look like articles), on line shills, etc.

For example, the offering of a money back guarantees is one of the best signs that the product is overpriced and likely a scam.

The main reasons the not so reputable companies offer guarantees was explained to me by a supplement company that had a product on the market that was obscenely marked up. The supplement cost \$3 to make and was sold for \$150, and of course widely advertised even on TV. A few hundred thousand people were taken in by this scam and a lot of it had to do with their "ironclad" money back guarantee.

Even though the product was ineffective and a rip-off, they only had about a 10% return rate. Why? Apparently most people either think that for one reason or another it's their fault that the supplement didn't work or because they just can't get around to returning the supplement within the allotted time (in this case 30 days).

And even with the 10% return rate they only honored about 2% of these by using delaying and other tactics.

So with this kind of scenario on returns and with the huge profits being made, you can see why the scammers offer guarantees on products that don't what they're advertised to do.

I formulated ThermoCell 35 tablets using a number of effective ingredients that work synergistically to decrease body fat and improve body composition. The product is made in a Pharmaceutical Grade Facility using the highest quality ingredients put into a compressed tablet format that dissolves completely in the gastrointestinal environment and as such quickly deliver the ingredients with the utmost efficiency.

The resulting delivery system and efficacy of ThermoCell 35 is a quantum leap above other forms of containment and delivery such as powder and liquid gel capsules, and other compressed tablets.

The bottom line is that no thermogenic and body shaping supplement on the market comes close to the effectiveness of ThermoCell 35.

## **ThermoCell 35 and LipoFlush Combo**

LipoFlush is the premier weight and fat loss supplement. It's meant for those people who need to lose weight and overall body fat.

ThermoCell 35 on the other hand is the premier thermogenic and body shaping supplement meant for those who don't really need to lose a lot of weight but need to lose fat in those hard to lose places and to improve their body composition.

For those who both need to lose weight and want that extra push to maximize their body composition and training efforts, stacking LipoFlush and ThermoCell 35 together makes sense. While they shouldn't be taken full dose at the same time, they can be used at different times of the day.

For example:

In the AM – 2-4 LipoFlush tabs  
Before Training – 2-4 ThermoCell 35 tabs  
In the afternoon – 2-4 LipoFlush tabs

## **ThermoCell 35 and the Radical Diet**

ThermoCell 35, LipoFlush, and several other supplements are an integral part of my Radical Diet. The combination of the Radical Diet plus specific nutritional supplements makes up the most comprehensive weight and fat loss plan on the market today. A plan, which unlike the others, works to get your weight off and maximize your body composition.

The Radical Diet, unlike the other diets out there such as the Atkins and South Beach diets, which are monophasic and thus in the long run ineffective, is a phase shift diet that is the future of effective dieting.

## **Where's the Proof**

I conducted a six week informal study on the effects of ThermoCell 35. A synopsis of the study is presented below.

ThermoCell 35 was used 2 tablets twice a day for the first week, 3 tablets twice a day for the next week, and 4 tablets twice a day for the final 4 weeks.

There were 4 females and 4 males in the six week study. All eight exercised regularly prior to the study and no change was made in their exercise schedule.

They were asked to cut back on their calorie intake to a level that was comfortable for them, mainly cutting back on simple carbohydrates. There was no attempt to set a specific daily caloric intake. Other than a daily vitamin and mineral preparation they were not on any other nutritional supplements other than ThermoCell 35.

## **The Results**

All eight had a significant body fat loss and a decrease in their waist hip ratios, losing weight off both their waists and hips, with more coming off the hip and buttock area in the women, and more from the waist area in the men.

### **Women**

A random example among the females:

Initial weight was 178 pounds at a height of 5'6". Percentage of body fat was 32%.  
Her body fat weight was  $178 \times .32 = 56.96$  pounds.

At the end of 6 weeks her weight was 158 pounds with 26% body fat.  
Her body fat weight was  $158 \times .26 = 41.08$  pounds.

In 6 weeks she lost 15.88 pounds of fat and 20 pounds of body weight.

The most dramatic body weight change among the women was in someone who in their clothes didn't really look overweight.

Initial weight was 152 pounds at 5'7". Percentage body fat was 28%, more than you would expect from someone of this weight and height.

At the end of the 6 weeks her weight was 144 pounds with 22% body fat. Now that doesn't seem like a dramatic drop but let's look at the figures.

**Initial Fat Mass was  $.28 * 152 = 42.56$  lbs.**

**Fat mass after 6 weeks was  $.22 * 144 = 31.68$  lbs.**

**This represents a loss of 8 lbs. of body weight but a loss of almost 11 lbs. of fat, which means she gained 3 lbs. of muscle.**

**Initially her BMI was 23 (BMI between 19 and 24.9 is considered to be a healthy weight) and in clothes she looked like she wasn't overweight, which she wasn't by normal standards. However she was over fat for her weight.**

**After six weeks her BMI went down to 22, not much of a drop, however her body fat levels, especially around the waist and hips, decreased dramatically. In fact in those 2 areas she lost a total of 7 inches.**

## **Men**

A random example among the males:

Initial weight was 224 pounds at a height of 5'11". Percentage of body fat was 24%.  
His body fat weight was  $224 * .24 = 53.76$  pounds.

At the end of 6 weeks his weight was 206 pounds with 18% body fat.  
His body fat weight was  $206 * .18 = 37.08$  pounds.

In 6 weeks he lost close to 17 pounds of fat and 18 pounds of body weight. This means that almost all the weight lost was body fat.

The most dramatic body weight change among the men was in someone who again looked OK in clothes and wasn't obviously overweight to begin with but with the ThermoCell 35 he dramatically improved his body composition.

Initial weight was 197 pounds at 5'9". Percentage body fat was 19%.

At the end of the 6 weeks his weight was 186 pounds with 12% body fat.

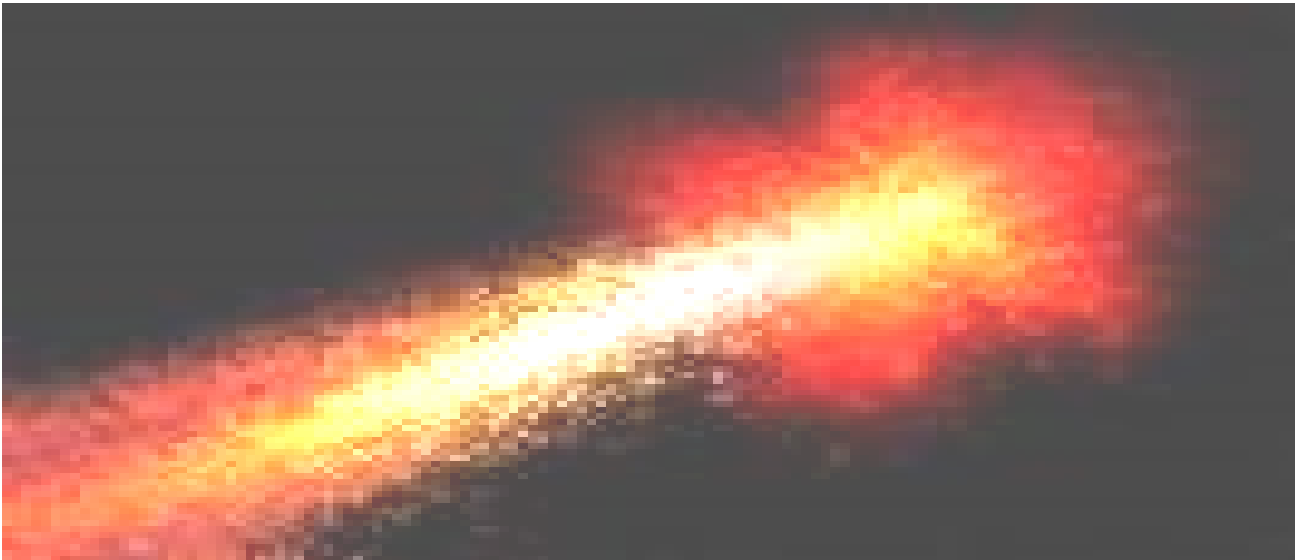
**Initial Fat Mass was  $.19 * 197 = 37.43$  lbs.**

**Fat mass after 6 weeks was  $.12 * 186 = 22.32$  lbs.**

**This represents a loss of 11 lbs. of body weight but a loss of 15 lbs. of fat, which means he gained 4 lbs. of muscle.**

In conclusion, the results of this study show that without any dramatic dieting, and without any changes in lifestyle or exercise, all 8 participants in this study lost weight, and more importantly improved their body composition and look, with decreases in body fat and especially decreases in body fat in those hard to lose areas.

# ThermoCell 35 Melting Off the Fat In All the Right Places



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**Warnings:** ThermoCell 35 is not for use by pregnant or nursing women. Cautious use is suggested, and if you have any medical conditions you should see your doctor. If you experience any side effects such as anxiety, heart palpitations, headaches you should discontinue its use and then try it again at a much reduced dosage. If you experience trouble sleeping take it earlier in the day and/or reduce the dosage.

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