



## TriPlex™ MCT-3 Oil VS Therapeutic-grade Organic Coconut Oil Product Uses and Applications

Virgin coconut oil and MCT oil are both medium chain triglyceride (MCT) oils, which differ mainly by the types of medium chain fatty acids (MCFA) and the composition of each MCFA it contains. Medium-chain triglycerides are fats found in foods like coconut oil. They are metabolized differently than the long-chain triglycerides (LCT) found in other foods containing saturated fats, such as animal proteins.

Triglyceride is simply the technical term for fat. Triglycerides have two main purposes — they are transported into cells and burned for energy, or stored as body fat. Triglycerides are named after their chemical structure, more specifically the length of their fatty acid chains. MCTs are composed of medium chain fatty acids (MCFAs). Three MCFAs, plus a glycerol molecule, makes one MCT molecule.

The medium-chain fatty acids in MCTs have 6–12 carbon atoms. The main medium-chain fatty acids are:

- C6: Caproic acid or hexanoic acid
- C8: Caprylic acid or octanoic acid
- C10: Capric acid or decanoic acid
- C12: Lauric acid or dodecanoic acid

When consumed, MCTs are broken down into individual medium chain fatty acids. The shorter the carbon chain length of the MCFAs, the more rapidly it is broken down and absorbed into the body. This makes MCFAs a fast energy source and less likely to be stored as fat. Most these MCFAs are used as an immediate source of energy or transported directly to the liver where they are converted into ketones.

In the same way, the smaller the carbon chain, the quicker and more efficiently the liver converts MCFAs into ketones. Therefore, caprylic acid (C8) is rapidly converted into ketones, with capric acid (C10) a little slower, and lauric acid (C12) slower still. Ketones are a high-potency fuel that can cross over the blood-brain barrier and nourish the brain.

**CocoTherapy® Organic Virgin Coconut Oil** and **CocoTherapy TriPlex™ MCT-3 Oil** are uniquely developed to be exceptional oils compared to other virgin coconut oil brands and other MCT oil brands available in the market. All the coconuts used in our oils are 100% USDA-certified organic, non-GMO, and sourced directly from our 3<sup>rd</sup>-generation family-owned farm.

Both **CocoTherapy® Organic Virgin Coconut Oil** and **CocoTherapy TriPlex™ MCT-3 Oil** are highly beneficial oils with inherent differences. Depending on your needs and concerns, you may choose to use one oil or rotate both oils for optimal benefit.

### **CocoTherapy® TriPlex™ MCT-3 Oil**

CocoTherapy TriPlex™ MCT-3 Oil is composed of 93% medium chain triglycerides, with higher levels of Caprylic Acid (C:8) and Capric Acid (C:10), *plus* Lauric Acid (C:12). Caprylic and Capric acids are converted to ketones raising **blood ketone**

levels quickly and efficiently. In addition, Lauric Acid is then converted to ketones by the liver at a slower rate and also travels directly to the brain to be converted to ketones by the brain itself, increasing **brain ketone** levels.

The Caprylic and Capric acids in TriPlex MCT-3 oil are rapidly broken down and used as instant energy, making this oil highly beneficial for athletic dogs, sporting dogs, show dogs and any dog that needs an immediate energy boost. In addition to the Caprylic and Capric acids, the presence of Lauric Acid further reduces fatigue, and is perfect for older dogs or low-energy dogs that need more prolonged energy.

Because of TriPlex™ MCT-3 Oil contains the optimal, proprietary blend of Caprylic and Capric Acid, *and* Lauric Acid, it has very pronounced therapeutic effects on brain health, protects against yeast overgrowth, and provides a rapid and sustained source of energy.

## CocoTherapy® Organic Virgin Coconut Oil

**CocoTherapy® Organic Virgin Coconut Oil** is composed of 65% medium chain triglycerides, with Lauric Acid (C:12) being the highest, at a therapeutic level of 53% (min). It also contains Caprylic Acid (C:8) and Capric Acid (C:10) at lower levels. The high Lauric Acid levels in our coconut oil is converted to monoglyceride monolaurin and is an excellent antibacterial, antimicrobial, antiviral oil. Lauric Acid, which is found in mother's milk, also strengthens the immune system, provides excellent systemic anti-inflammatory support, and provides powerful antioxidant support.

It is important to note that although Lauric Acid may be converted to ketones by the liver at a slower rate (compared to Caprylic and Capric Acids), research has shown that if it is not converted into ketones immediately by the liver, it will travel directly to the brain and be converted to ketones by the brain itself<sup>1</sup>. Further studies have shown that Lauric Acid reduces the formation of amyloid plaque (a substance that causes Alzheimer's disease)<sup>2</sup>. Ketones themselves, have no antimicrobial effect and cannot defend the brain against infection. Although Caprylic Acid does have some antimicrobial effect, it cannot reach the brain via the bloodstream to defend against infection. Lauric acid, on the other hand, is partly converted into ketones by the liver, while the rest enters the bloodstream where it can reach the brain and defend it against infection as well as be converted into ketones in the brain.

While Caprylic Acid raises *blood* ketones higher than Lauric Acid, it does not directly raise *brain* ketone levels. Blood ketone levels provide cellular energy, aid with fatigue, and when it does cross the blood-brain barrier, it provides a source of quick brain food for the brain's energy needs. Lauric Acid, however, when converted to ketones directly in the brain, increases *brain* ketone levels higher than Caprylic Acid, which is crucial for reducing brain inflammation and degeneration.

Caprylic and Capric acids raise blood ketones and peak in around 1.5 hours and is completely assimilated in 3 hours. Lauric Acid then increases blood ketones to therapeutic levels and peaks in about 3 hours, and remains elevated in a full 8 hours<sup>3</sup>. For this reason, the combination of the *three medium chain fatty acids* provides overall greater and longer lasting benefits.

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<sup>1</sup> Nonaka, Y, et al. Lauric acid stimulates ketone body production in the KT-5 astrocyte cell line. *J Oleo Sci* 2016;65:693-699

<sup>2</sup> Nafar, F, et al. Coconut oil protects cortical neurons from amyloid beta toxicity by enhancing signaling of cell survival pathways. *Neurochem Int* 2017;105:64-79

<sup>3</sup> Fife, B. *Brain Fuel versus Coconut Oil*. Coconut Research Center. CO. 2019.

**Table 1: Comparison Table for TriPlex MCT-3 Oil vs CocoTherapy Therapeutic Organic Virgin Coconut Oil**

	<b>CocoTherapy TriPlex MCT-3 Oil</b>	<b>CocoTherapy Therapeutic Organic Virgin Coconut Oil</b>
<b>Medium Chain Triglycerides levels</b>	Total Medium Chain Triglycerides - 93% Caprylic Acid (C8) ( <i>min</i> ) 39% Capric Acid (C10) ( <i>min</i> ) 35% Lauric Acid (C12) ( <i>min</i> ) 8%	Total Medium Chain Triglycerides - 65% Caprylic Acid (C8) ( <i>min</i> ) 12% Capric Acid (C10) ( <i>min</i> ) 7% Lauric Acid (C12) ( <i>min</i> ) 53%
<b>Main Benefits</b>	<ul style="list-style-type: none"> <li>• Rapidly absorbed for energy</li> <li>• Boost Brain function: quick brain food for energy needs</li> <li>• Yeast/candida balance</li> <li>• Anti-Fungal</li> <li>• Weight management</li> <li>• Highest blood ketone levels</li> </ul>	<ul style="list-style-type: none"> <li>• Sustained energy reserve</li> <li>• Support Brain health: reduce brain inflammation and degeneration</li> <li>• Immune support</li> <li>• Anti-Bacterial, Anti-Viral, Anti-Microbial</li> <li>• GI Support</li> <li>• Highest brain ketone levels</li> </ul>
<b>Use for</b>	<ul style="list-style-type: none"> <li>• Athletic/sporting dogs</li> <li>• Senior pets</li> <li>• Convalescent pets</li> <li>• Low-energy pets</li> <li>• Yeast overgrowth (gut and skin)</li> <li>• For quick, immediate absorption</li> <li>• Short-term/rapid energy needs</li> <li>• Over-weight pets</li> <li>• Pets with fat intolerance</li> </ul>	<ul style="list-style-type: none"> <li>• Cognitive disorder/dementia pets</li> <li>• Immune-compromised pets</li> <li>• Allergic pets</li> <li>• Cuts, wounds, scrapes, skin infection</li> <li>• Pets with digestive disorders</li> <li>• For long term absorption</li> <li>• Long-term energy support</li> <li>• Over-weight pets</li> <li>• Pets with fat intolerance</li> </ul>
<b>Absorption and Assimilation</b>	<ul style="list-style-type: none"> <li>• Rapidly converted to Ketones by liver</li> <li>• Provides <i>faster</i> ketone levels</li> <li>• Blood ketones peak – 1.5 hours</li> <li>• Assimilated (total elevated time) – 3 hours</li> <li>• Increases blood ketones</li> </ul>	<ul style="list-style-type: none"> <li>• Converted to ketones by liver and brain itself</li> <li>• Provides <i>higher</i> brain ketone levels</li> <li>• Blood ketones peak – 3 hours</li> <li>• Assimilated (total elevated time) – 8 hours*</li> <li>• Increases brain ketones</li> </ul>

\* Duration is a crucial factor when it comes to degenerative brain diseases. Inflamed brain needs a steady source of ketones to reduce inflammation and prevent brain degeneration.

**Table 2: Uses for TriPlex MCT-3 Oil vs CocoTherapy Therapeutic Organic Virgin Coconut Oil**

Primary Benefits / Uses	CocoTherapy TriPlex MCT-3 Oil	CocoTherapy Therapeutic Virgin Coconut Oil
Rapid / immediate energy boost	X	
Sustained long-term energy		X
Anti-fungal	X	
Anti-bacterial, anti-viral, anti-microbial		X
Promotes healthy yeast balance – kills harmful yeast	X	
Increase blood ketones	X	
Increase brain ketones		X
Brain health (food and energy for the brain)	X	
Brain disorders (infection and inflammation of the brain)		X
Cognitive disorders (Canine Cognitive Dysfunction)		X
Inflammation	X	X
Immune system support		X
Allergies		X
Yeast overgrowth / Candida (skin and gut)	X	
Hot spots, wounds, bites, scrapes		X
GI support / Gut health	X	X
Over-weight pets	X	
Digestive disorders (IBD, IBS, PLE etc)		X
Fat-Intolerance (lipid disorders)	X	X
Pancreatitis	X	X
Senior pets	X	X
Athletic pets	X	
Convalescent pets	X	X
Puppies/kittens		X
Joint health		X
Dental health		X
Cancer	X	X

