

# Raspberry Ketones



The last several newsletters have dealt with the 'new' weight loss products, Raspberry Ketones are now included. Raspberry Ketones have been last on my list because of the lack of substantiated information. With a little digging though, I was able to find some good information on Raspberry ketones.

Raspberry ketones 4-(*p*-hydroxyphenyl)butan-2-one (raspberryketone) are a substance that has been used in the food industry for years. Raspberry ketones have been used as a food flavoring and for color. The weight loss guru's are touting raspberry ketones as the 'miracle cure'. As you probably know there are no miracles in weight loss. So let's find out what's the big hullabaloo over raspberry ketones.

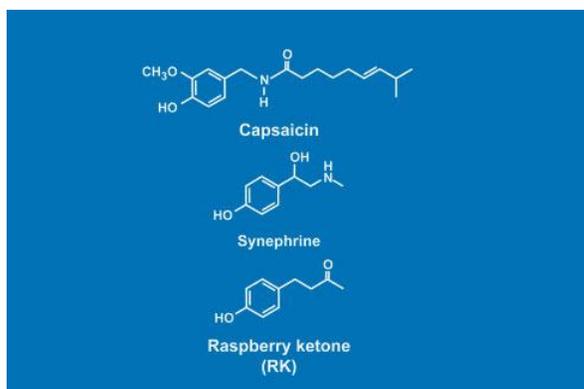
First, the raspberry ketones are chemically similar to capsaicin from cayenne and also synephrine found in bitter orange. Both of these compounds have substantiated research extolling their thermogenic properties, or helping the body activate metabolism. As believed by the chemical structure similarity, raspberry ketones enhance thermogenic effects. But that is not all. (2,4,5,6,7,10)

## Study Results

A manufacturer of raspberry ketones named Razberi-K™ by Integrity Company had a non-published preliminary double study. This double blind study was done by an Ohio Research Group. Dr. Tim Ziegenfuss is the CEO of the Ohio Research Group. Dr. Ziegenfuss is highly respected by research academia, on sports nutrition. The study involved athletes that were already 'highly trained'. The results of the raspberry ketone group were noted to have increased oxygen consumption, cellular, for 30 minutes post workout. What this means is the raspberry ketone groups had increased metabolism of fats for 30 minutes post workout. The concluding statement for this pilot study suggested Razberi-K increased fat oxidation in the late stages of exercise. This is accomplished through activating increased norepinephrine induced lipolysis. Its effect may enhance thermogenesis and oxidation of body fat. The study has been shown to have an anti-obesity effect especially when combined with an exercise program. Other literature reviews showed animal studies had increased fatty acid oxidation, decrease in fat deposits in the liver, and increased lipolysis, while increasing adiponectin levels from the fat cells. Lipolysis is the release of fats for energy. Adiponectin increases cellular oxidation of fats and improves insulin sensitivity. (7,8,9,11)

## Adverse effects.

No adverse effects were noted on the double blind study Dr. Ziegenfuss stated Razberi-K was safe and effective. Remember this was with raspberry ketones only with no added nutrients. Many other companies have added caffeine and other compounds that should be noted individually. (4,7)



## Dosage

Most noted dosage was 100 mg a day.

By Starkie Sowers CN

### References:

1. **Raspberry** ketone increases both lipolysis and fatty acid oxidation in 3T3-L1 adipocytes. Park KS. *Planta Med.* 2010 Oct;76(15):1654-8. Epub 2010 Apr 27. <http://www.ncbi.nlm.nih.gov/pubmed/20425690>
2. [Effects of novel capsinoid treatment on fatness and energy metabolism in humans: possible pharmacogenetic implications.](#) Snitker S, Fujishima Y, Shen H, Ott S, Pi-Sunyer X, Furuhashi Y, Sato H, Takahashi M. *m J Clin Nutr.* 2009 Jan;89(1):45-50. Epub 2008 Dec 3. <http://www.ncbi.nlm.nih.gov/pubmed/19056576>
3. Capsaicin&raspberry ketonepicture <http://www.jarretmorrow.com/raspberry-ketones-supplements-promote-weight-loss/>
4. <http://www.webmd.com/vitamins-supplements/ingredientmono-1262-RASPBERRY%20KETONE.aspx?activeIngredientId=1262&activeIngredientName=RASPBERRY%20KETONE>
5. <http://www.sciencedirect.com/science/article/pii/S0040402003016016>
6. A review of the human clinical studies involving Citrus aurantium (bitter orange) extract and its primary protoalkaloid p-**synephrine**. Stohs SJ, Preuss HG, Shara M. *Int J Med Sci.* 2012;9(7):527-38. Epub 2012 Aug 29 <http://www.ncbi.nlm.nih.gov/pubmed/22991491>
7. Newhope 360 Thursday, 2007-0301 23:00 <http://newhope360.com/managing-your-business/study-confirms-razberi-ktmsupports-fat-oxidation>
8. [Raspberry ketone increases both lipolysis and fatty acid oxidation in 3T3-L1 adipocytes.](#) Park KS *Planta Med.* 2010 Oct;76(15):1654-8. Epub 2010 Apr 27 <http://www.ncbi.nlm.nih.gov/pubmed/20425690>
9. [Anti-obese action of raspberry ketone.](#) Morimoto C, Satoh Y, Hara M, Inoue S, Tsujita T, Okuda H. *Life Sci.* 2005 May 27;77(2):194-204. Epub 2005 Feb 25. <http://www.ncbi.nlm.nih.gov/pubmed/15862604>
10. [Lipolytic effects of citrus peel oils and their components.](#) Choi HS. *J Agric Food Chem.* 2006 May 3;54(9):3254-8. <http://www.ncbi.nlm.nih.gov/pubmed/16637681>
11. [Raspberry ketone protects rats fed high-fat diets against nonalcoholic steatohepatitis.](#) Wang L, Meng X, Zhang F. *J Med Food.* 2012 May;15(5):495-503. <http://www.ncbi.nlm.nih.gov/pubmed/22551412>