

# Boosting mental and physical energy

Zynamite® is the lean label ingredient to increase alertness and mental activation, and boost physical energy, without the undesirable side-effects of the caffeine.

Zynamite® is the healthy way to replace caffeine with a botanical ingredient without the side-effects of caffeine and actually works better than caffeine, while retaining the experiential effect. Zynamite® is the Nektium's patent-pending proprietary *Mangifera indica* extract, launched at vitafoods Europe 2018, and getting the Nutraingredient award.

Zynamite® gives sustained mental and physical energy and focus without any negative side effects.

What do tired people need? Stressed or fatigued people lack enthusiasm and mostly feel exhausted and desperate. What they desire is a sustained boost of energy that improves physical performance, concentration, attention, alertness and mood.

The problem with caffeine  
Because of the mental energy and focus provided by caffeine, billions of cups of cof-

## Benefits

### Cognitive health (clinical studies)

- + Rapid onset of mental activation
- + Faster reaction time
- + Increase performance
- + Focus and concentration

### Sport Performance (clinical studies)

- + Sustained energy
- + Increase power
- + Doping free

### Safety & Information

- + Own safety data: AMES, 14-day and 90-day oral toxicity, NOAEL... and new soon coming.
- + GMO, BSE/TSE free, Doping free, DNA barcode, Vegan, Kosher, Halal, traditionally used in food, registered in different countries in Europe, Australia, New Zealand, USA (self GRAS i.p.)

fee are consumed daily to assist people to cope. However, caffeine is addictive and most people consume too much of it and suffer from its negative side effects and withdrawal symptoms.

### Caffeine in Sports Products

Many sports products contain caffeine to increase alertness and boost physical energy but these products inevitably lead people to experience jitters, anxiety, irregular pulse, insomnia and nausea - all physical and mental issues for concern, especially for sports performers. Zynamite® is the ideal alternative.

### What is Zynamite®?

Zynamite® is Nektium's patent-pending proprietary *Mangifera indica* extract standardized to ≥ 60% mangiferin.

*Mangifera indica*, the common mango tree, is cultivated extensively in the tropical and subtropical regions of the world. Infusions and decoctions of mango leaves are used extensively in traditional health systems and have been known for centuries for their health benefits.

### How does Zynamite® work?

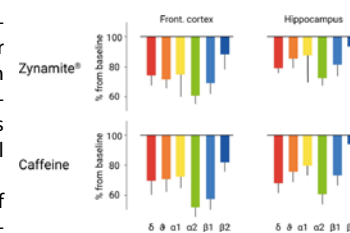
Zynamite® activates brain waves and increases Long Term Potentiation in a remarkably similar pattern to caffeine. While caffeine antagonizes adenosine receptors, Zynamite® acts non-selectively to stimulate brain activity. The key active, mangiferin acts non-selectively to modulate multiple physiological and CNS targets.

### Bio-actives of Zynamite®

The active principle of Zynamite® is mangiferin, a natural flavone polyphenol. Ultra-high-performance liquid chromatography (UHPLC) with photodiode array detection (PDA) is used to provide high-resolution separation, identification and quantification.

## Mental Activity

Zynamite® has remarkably similar mental activation activity to caffeine in studies of brain electrical activity in vivo. The pattern of electrical activation for both Zynamite® and caffeine are remarkably similar in the brain frontal cortex and in the hippocampus. (Preclinical study, Collaboration with Professor Wilfried Dimpfel, Justus-Liebig-University, Giessen, Germany)

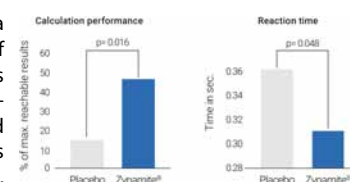


## Mental Energy

The effect of a single dose of Zynamite® as caffeine-replacement was tested in 32 participants in a double-blind, randomized, placebo-controlled, 2-armed study with parallel design.

Calculation performance significantly improved cognitive performance. Reaction time significantly faster reaction compared to placebo.

(two clinical studies, Collaboration with Professor Wilfried Dimpfel, Justus-Liebig-University, Giessen, Germany)



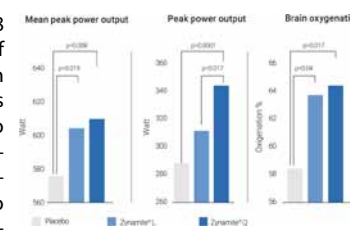
## Sport Performance

The effect of 48 hour intake of Zynamite® on performance was tested in two sports formulations in a double-blind, placebo controlled crossover cycling trial in 30 young physically active athletes.

Mean peak power output reached in each sprint was significantly higher for both Zynamite® formulations compared to placebo. Peak power output developed in the 15-s sprint performed immediately after ischaemia was significantly higher for Zynamite®.

Brain oxygenation measured with spatially resolved near-infrared spectroscopy in the female group of thirteen women was significantly higher for both Zynamite® formulations.

(two clinical studies, Collaboration with Professor Jose Antonio López Calbet, University of Las Palmas, Spain)



Product Features	
<b>Botanical origin</b> <i>Mangifera indica</i> mango leaves	<b>Taste</b> Mild taste
<b>Bioactives</b> ≥ 60% mangiferin	<b>Recommended serving</b> 100-200mg once to twice a day
<b>Cultivated or wild</b> Cultivated	<b>Quality</b> GMO free, BSE/TSE free, DNA-barcode, Doping free
<b>Cropping pattern</b> Conventional	<b>Product certification</b> Kosher, Halal
<b>Appearance</b> Fine powder	
<b>Pack size</b> 25kg	

## References

- Dimpfel, W. et al. Synergy between Mango leaf extract (Zynamite®) and caffeine with respect to stimulation of the central nervous system in rats. Synergy Forum, 9-10 March 2018, Bonn, Germany
- Miriam Gelabert-Rebato, Jose A L Calbet. *Mangifera indica* L. leaf extract (Zynamite®) in combination with luteolin or quercetin enhances VO<sub>2</sub>peak and peak power output and preserves skeletal muscle function during ischemia-reperfusion in humans. 23. European College of Sports Science ECSS, 4-7 July 2018, Dublin, Ireland