

# Memophenol™

## the new mate of gamers

The hitter improves his batting. The gymnast refines his flexibility. And the gamer ameliorates his cognitive skills. For the latter, this is a fast-growing challenge. Just as any high-level athlete, nutrition occupies a critical role for gamers who constantly seek solutions to enhance their performance. But what are the specific needs of these upcoming consumers? And how did Memophenol™, a double patented and clinically tested ingredient, convinced a cohort of semi-professional gamers?

Gamers are sometimes referred to as "cognitive athletes", pointing out the crucial role of mental faculties. To stand out, they require concentration and endurance – a game can last 10 hours! – but also a short reaction time and decision-making. On top of that, physical abilities such as dexterity and hand-eye coordination are also required(1).

To sharpen these faculties, training is not always enough, which is why most players then turn towards nutrition: food supplements, energy drinks, or functional foods. But beware of the side effects! Caffeine, despite being used for many years for its notable effects, could end up being out-of-date. In addition to a proven addiction, its consumption over time could induce tremors, headaches, or nervousness(1). Harmful consequences for a budding gamers' performance. These athletes are expected to seek reliable and healthier solutions, without cutting corners on the benefits or the speed of action. 53% of them want all-natural solutions(2). Considering the price of hardware, video games, laptop etc, players possess disposable income and are likely to buy premium products(1).

### Polyphenols for performance?

7 epidemiological studies carried out on 30,000 subjects suggested that the consumption of polyphenol-rich fruits is associated with better cognitive functions. The intake of the polyphenol subclass of flavonoids would be essential as they reap the highest benefits.

However, fruits are not convenient to eat while playing, and a huge amount would be necessary. To illustrate, you would need at least 500mg of polyphenols per day, which corresponds to 5 cups of Brussels sprouts, for example. Therefore, how does one obtain an optimal intake of polyphenols easily?



Based on this discovery, Activ'Inside initiated and led a 4-year international research program, Neurophenol™, to develop the optimal nutritional active that will support cognitive performance. This research consortium of 4.2 million euros involving 10 academic and industrial partners from France and Canada, as well as 22 scientists, Ph.D., and engineers, resulted in a patented ratio of specific grape from France and blueberry from North America extracts: Memophenol™.

### Clinical and medical validations

Benefits of Memophenol™ were evaluated on a panel of criteria referencing three populations. Each of them corresponds to a situation where the tested performance is highly solicited:

- Students: gold standard clinical study focusing on concentration and endurance
- Adults: gold standard clinical study targeting memory and brain health
- Semi-professional gamers: evaluation under medical supervision

Altogether, results illustrated Memophenol™ 's potential to boost gamers' performances (Fig. 1).

Gamers needs	Clinical study on students	Clinical study on adults	Evaluation by semi-professional gamers
Concentration	✓		✓
Endurance	✓		✓
Memory		✓	✓
Reaction time			✓
Decision making			✓
Dexterity			✓
Hand/eye coordination			✓
Energy			✓
Brain health		✓	

Figure 1: Synthesis of the demonstrated benefits of 600mg of Memophenol™ for gaming.

## Key-performance benefits double-checked with clinical evaluation

Two clinical studies focused on Memophenol™ benefits on key parameters for gaming: concentration, endurance, memory, and brain health.

30 students were recruited as a model: like gamers, they need to stay focus to perform. In a randomized double-blind placebo-controlled crossover clinical study, benefits of Memophenol™ on concentration and endurance were assessed in a situation whereby participants endured an hour of intense mental effort(4). Only 90 minutes after the intake and despite a perceived mental fatigue, students remained concentrated throughout the exercise: they improved their performances in the different tests (Fig. 2).

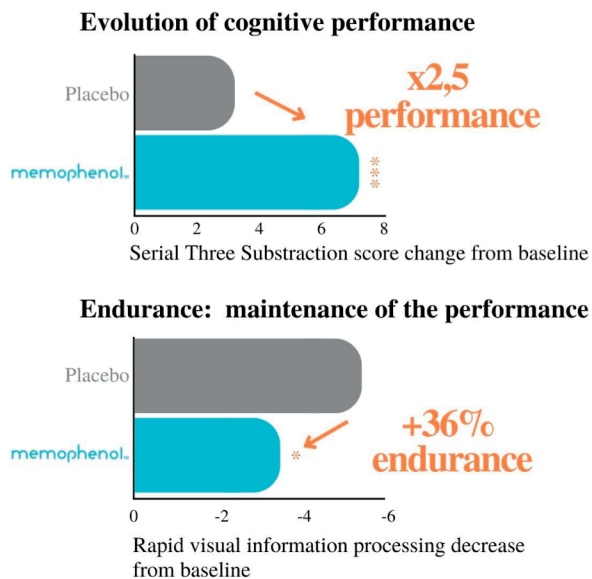


Figure 2: Change from baseline after 1h of mental effort in students who received 600mg Memophenol™ or placebo 90 min earlier.

In parallel, 215 adults were tested on their memory in a randomized double-blind placebo controlled and bi-centric clinical study(5). They had the same need as the gamers: recalling a large amount of information. Consumed in a cure, Memophenol™ helped to boost immediate recalling (Fig. 3) with +60% more words recalled.

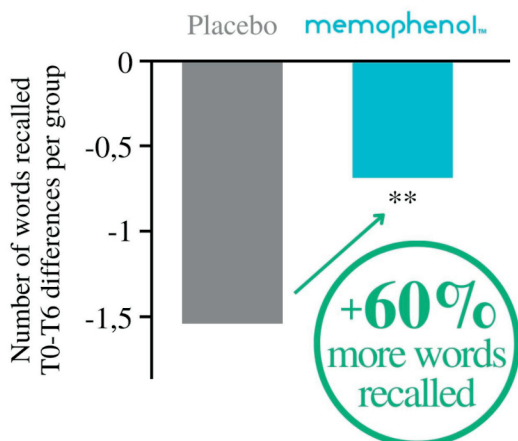


Figure 3: Short-term memory change in adults taking 600mg Memophenol™ or placebo.

In fact, 5 days were enough to note improvements. Memophenol™ boosted four essential parameters for gaming performance: concentration, endurance, reaction time and decision-making (Fig. 4).

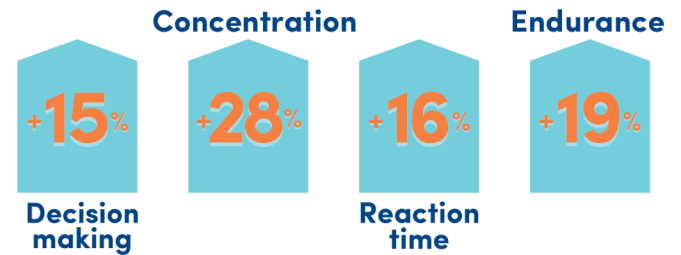


Figure 4: Parameters activated with 600mg of Memophenol™.

Dexterity (+18%), hand/eye coordination (+18%), Memory (+23%) and mental fatigue (-13%) were also optimized. In the end, 3 out of 4 semi-professional gamers validated Memophenol™ as more potent and satisfactory than any other solution they had tried in the past.

## How to explain this effectiveness?

As any other organ, the brain needs oxygen and nutrients, supplied by the bloodstream. During an intensive effort, it needs to be well irrigated to remain at its best.

There is clear evidence that flavanol monomers improve the cerebral blood flow(6). Memophenol™ was developed to be the optimal source of these smallest form of polyphenols. Better, the ratio of its ingredients allows a synergy; it multiplies their bioavailability by five. After crossing the blood brain barrier, monomers are found in the brain(7) and improve cognitive performance in situ.

From the mechanism of action on the neurons, to a double clinical validation and consumer's reported effectiveness, Activ'Inside studies show that its patented ratio of essential polyphenols, boosts gamers skills. All this science is expected by this particular type of consumers, preferring premium products with proven efficacy. Additionally, it allows companies to communicate clearly. Venable validated claims for products using Memophenol™ citing that it: "Promotes clear thinking" or even "Clinical research suggests that Memophenol™ may have a favorable impact on mental performance".

**This year, Memophenol™ is nominated for the Supply Side West award in the "brain" category. Want to know more about this finalist? Contact us: [formore@activinside.com](mailto:formore@activinside.com)**

References: (1) Natural Products Insider®, (2) Lonza Esport Consumers Survey (3) Proprietary Open Study (Unpublished), (4) Philip et al. 2019, (5) Bensalem et al. 2019, (6) Fraga et al. 2019, (7) Bensalem et al. 2018.



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