



**Cognivia™**

**The vegetal nootropic**

FINALIST  
**NUTRA**  
INGREDIENTS  
AWARDS 2020

FINALIST  
**NUTRA**  
INGREDIENTS USA  
AWARDS 2020

**Top awarded nootropic to  
boost your working memory**



**COGNITIVE  
PERFORMANCE**



**Organic**

**nexira**  
HEALTH



# Global leader in natural innovative botanical ingredients

## Known as the world leader in acacia gum



**125+**

Years' Sourcing  
Expertise in Africa



Companies



**8**

Production Units



Serving

**80**

Countries on  
5 Continents

More than

**270**

Employees



**50**

Distributors  
& Agents



Over **100 metric tons** of natural  
and nutritional ingredients are  
produced per day

### INGREDIENT SOLUTIONS



FOOD & BEVERAGE



NUTRITION



HEALTH & WELL-BEING



MORE

Involved in **sustainable  
development** for several  
decades



Clean up your labels with  
our natural ingredient

- NATURAL
- ORGANIC
- GMO-FREE
- SAFELY SOURCED
- MANUFACTURED WITH TRANSPARENCY
- MINIMALLY PROCESSED



COGNITIVE PERFORMANCE



## Cognivia™, Top awarded nootropic to boost your working memory

- **Market trends**  
Julie Impérato, Marketing Manager
- **Why Cognivia™**  
Ștefan Emil Sitaru, International Area Manager
- **How**  
Damien Guillemet, Scientific Development Director
- **Q&A**  
Caroline Jourdain, Technical Manager





# Market trends



COGNITIVE  
PERFORMANCE



# Consumers' demand for supplements

- Global requirement:
  - Natural
  - Clean label
  - Obtained from plants

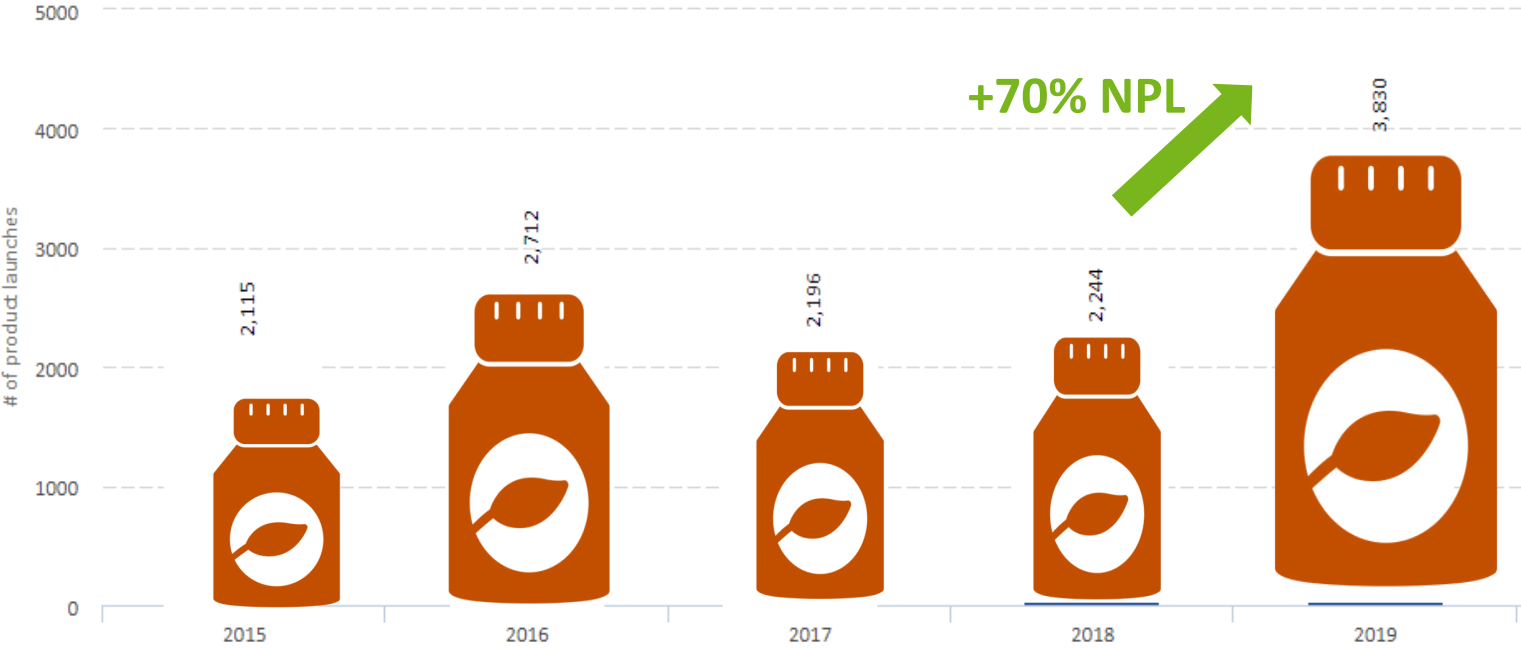


## HEALTH & WELL-BEING



- Physical and mental health are equally important
- Need for enhanced mental agility
- Consumers are confused → Need to prove the benefits

# Cognitive performance: the global market is growing



US sales: \$914 million in 2018

High expected growth: +21% between 2018 and 2022



# Consumers' expectations

**80%** consumers agreed that mental health is as important as physical health<sup>1</sup>

**40%** of global consumers are not satisfied with their cognitive health<sup>2</sup>

Mental alertness is a problem for consumers, with many struggling to concentrate and stay active throughout the day<sup>2</sup>:

**41%** lack of concentration

**34%** lack of mental focus

**90%** of consumers say that they have taken some forms of steps to try and improve their mental health over the last twelve months

→ **Demand for products that help raise alertness and sharpness**



# Large consumer's target

Concern over **cognitive health** is growing worldwide

15% of people want to improve their brain health in order to progress when participating in sports <sup>4</sup>



Athletes and e-gamers

For 94% of adults over 50 yo, staying mentally sharp is “everything they need” <sup>2</sup>



Aging people

20% of students are using psychic tonics to enhance apprenticeship during exams <sup>1</sup>



Students

40% of consumers between 26-35 years showed interest in ingredients for focus and mental acuity<sup>3</sup>



Active people







Cognivia™

The ingredient of choice



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# Unique innovative formulation

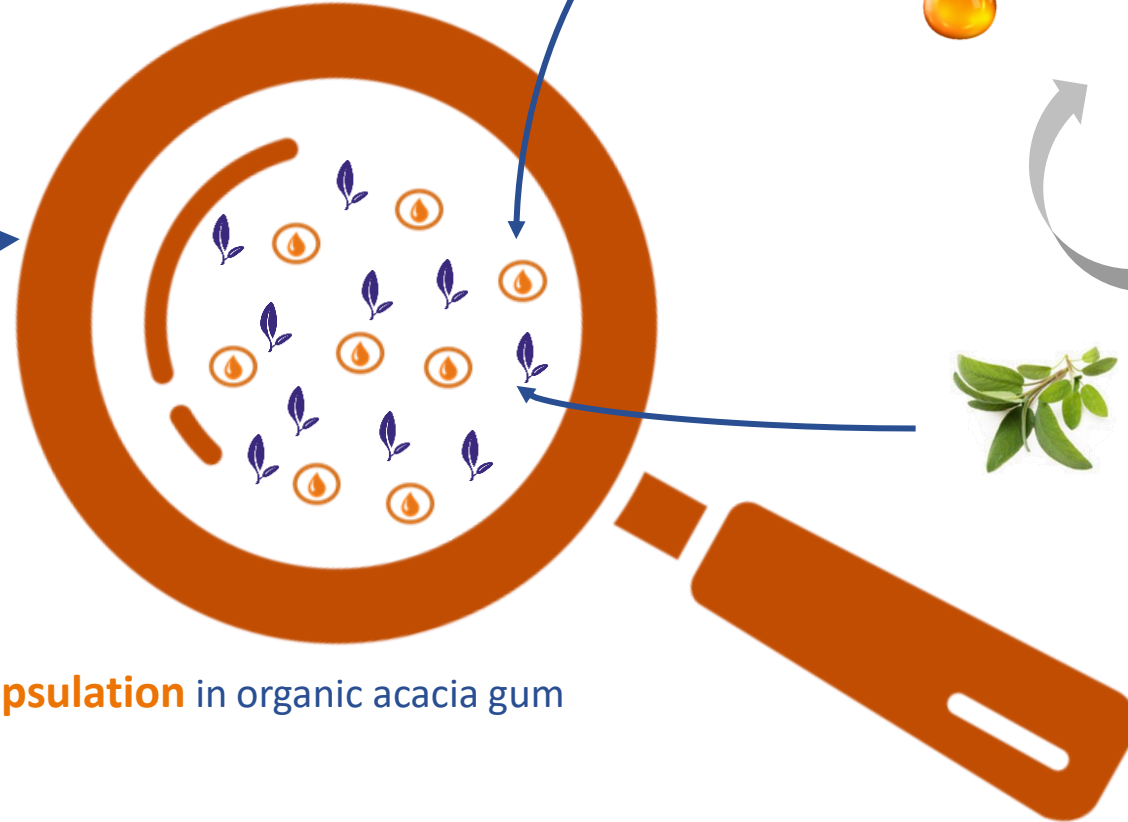
Cognivia™



nexira



Expertise



Micro-encapsulation in organic acacia gum



Organic Spanish Sage essential oil  
*Salvia lavandulifolia*



Synergistic effect



Organic Garden Sage leaf  
*Salvia officinalis*

A natural and botanical origin ingredient



Organic

# Cognivia™ technical data



✦ Capsules

✦ Tablets

✦ Liquid forms

✦ Orodispersible sticks

✦ Chewable tablets

✦ Effervescent tablets



✦ Recommended daily dose 400-600mg



# Target market segments



# Reasons behind an excellent choice

- 🌿 Improvement of attention, concentration and working memory
- 🌿 Clinically proven effect from single intake to prolonged use
- 🌿 First and only marketed ingredient from sage with proprietary studies
- 🌿 Easy-to-use

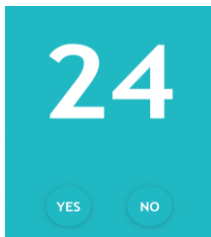
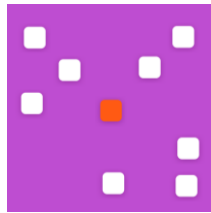
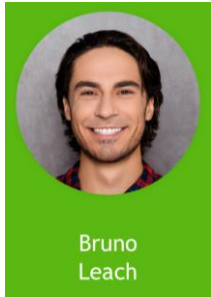
- 🌿 Organic certified, 100% natural and botanical origin
- 🌿 Full traceability



- 🌿 Wording (EU pending claim)\*
  - “Helps maintaining concentration, attention and memory”
- 🌿 Marketing support: co-branding, App



# Want to test your cognitive performances?



TRY OUR **NEW APP**

 Download on the App Store **Cognivia**

& use the code below:  
**CogniviaApp**







Cognivia™

Scientific support



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# Domain - basics

- **Cognitive functions (CF)** are multiple and work together to achieve a task:

Gnosis, Praxis, Language, Attention, Working memory, Long term memory and Executive function.

- CF are highly variable inter and **intra**-people and **require specifics tools**

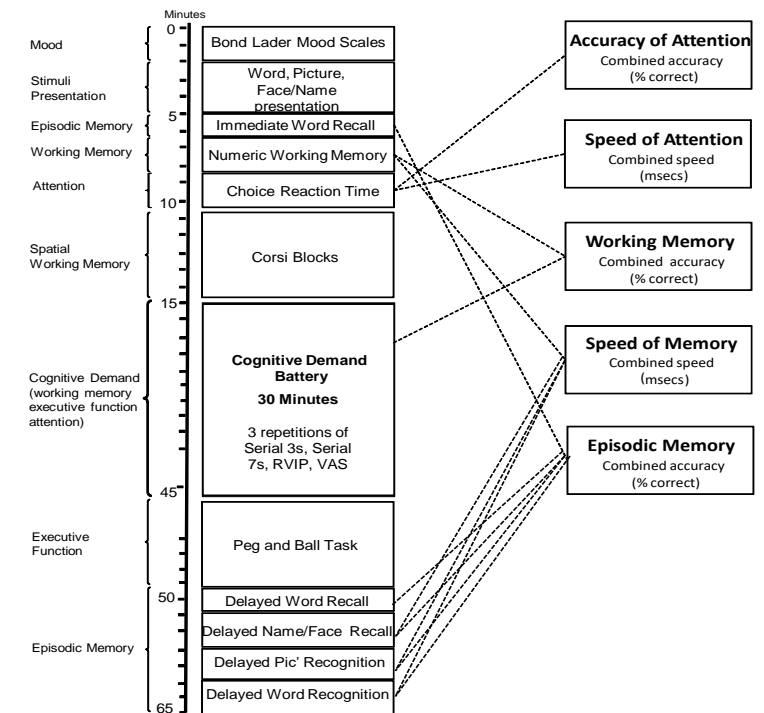
- Standardized tests, in lab (avoid distractor)
- Standardized conditions (time in the day, calorie intake, etc.)

⇒ **Tests are scored.**

⇒ **Subsequently, cognitive functions can be scored**

- **Clinical design & cognitive functions :**

- **Placebo** controlled is mandatory
- **Baseline** assessment is mandatory (variation comparison)
- Same characteristics between groups (sex, education, etc.)
- To consider training and boring effects





# Literature on both Sage

- **Preclinical:** in vivo - animal

More than 6 published studies described nootropic activities (memory retention) and brain protective effects, from *Salvia officinalis*, in induced model.

- **Clinical studies:**

placebo controlled, double blind, single dose, multiple time assessment

Studies	Intervention	Population	Significant effects of Sage
Tildesley 2003	<i>S. lavandulifolia</i> EO 50 to 150 µL. (best = 50)	2 studies: 19 & 23 y. o.	Quality and speed of memory Long term Memory
Tildesley 2005	<i>S. lavandulifolia</i> EO 25 and 50 µL. (best = 50)	23 years old	Quality and Speed of memory Long term memory
Kennedy 2011	<i>S. lavandulifolia</i> EO 50 µL	24 years old	Alertness Long term memory
Kennedy 2006	<i>S. officinalis</i> dried leaf 300 to 600 mg	24 years old	Attention
Scholey 2008	<i>S. officinalis</i> EtOH ext. Eq. to 1,13gr to 9 gr of leaf (Best = 2,25gr)	73 years old	Long term memory Alertness

⇒ **Reproducible significant effect after 1<sup>st</sup> intake**

⇒ **Activities described for both Sage**

⇒ **Selection of most effective dosage (50µL EO and 2,25gr eq. leaf)**

⇒ **Main target: normal adult**

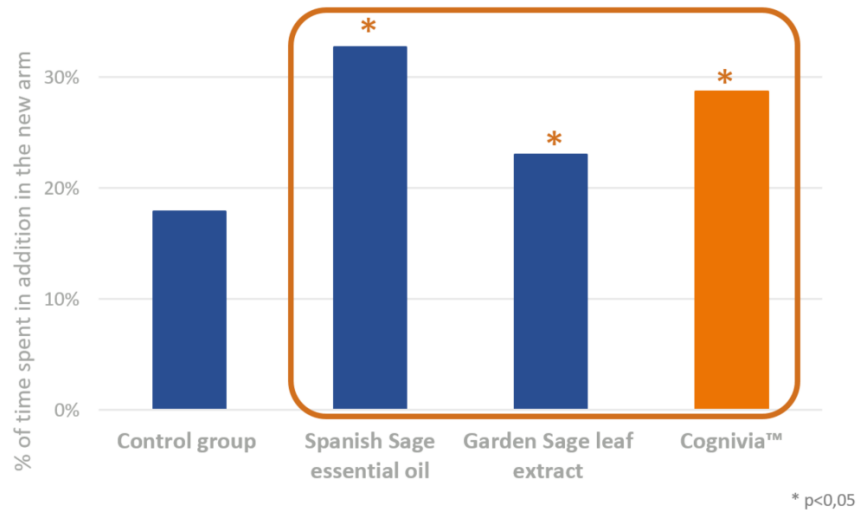


# Cognivia – *in vivo* study

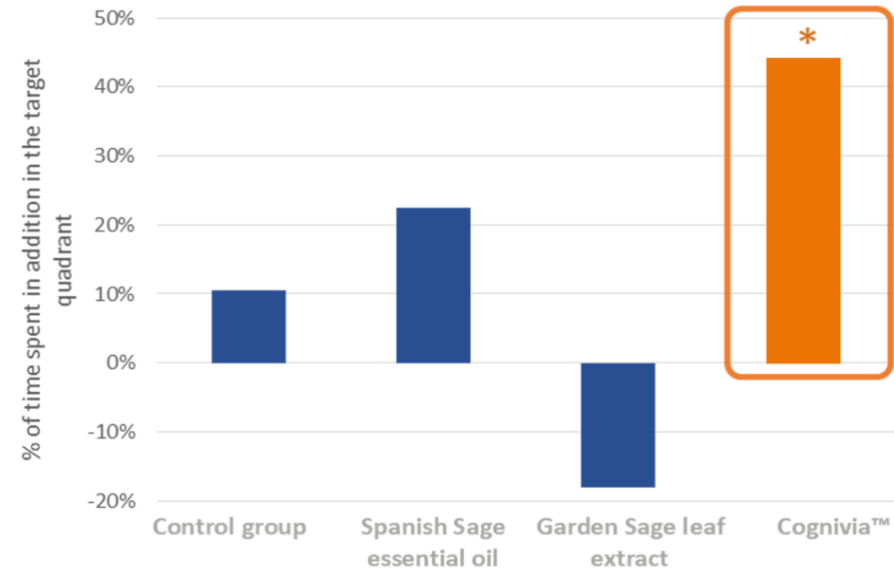
## Visuospatial memory models (mice)

- Normal adult mice (no induction)
- 4 arms : Ctrl / Spanish Sage / Garden Sage / Cognivia

- Acute effect - Y-Maze model (+1h)
- Chronic effect - Morris water maze (+14 days)
- Biochemical & histological investigation on tissue collection



Y-maze - both types of sage and their combination have an acute effect (single intake) on memory.



Morris Water Maze - **Synergistic effect after prolonged intake: only the combination has an effect.**

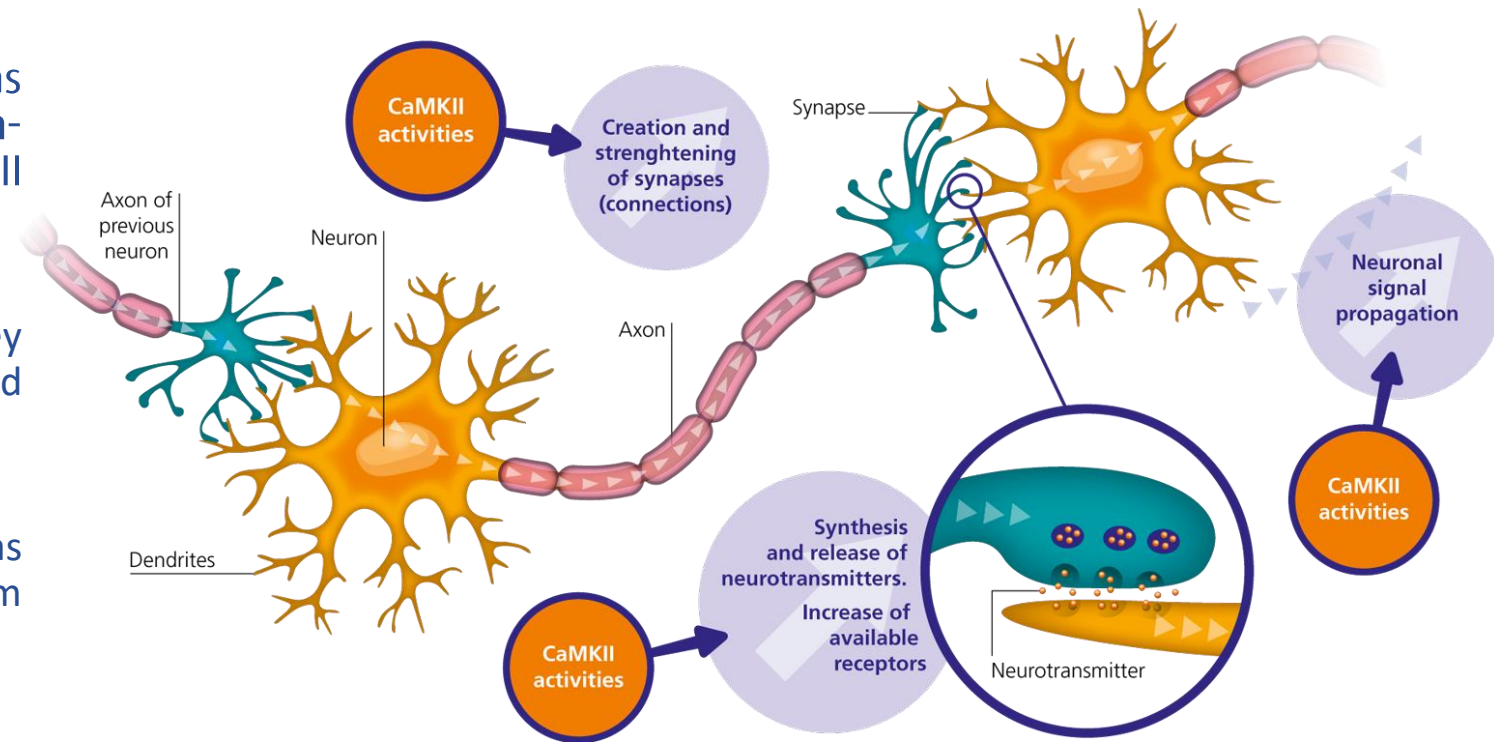
Cognivia arm has developed 30% more of Spatial strategies (Repeated correct and Spatial indirect).



# Mechanism of action

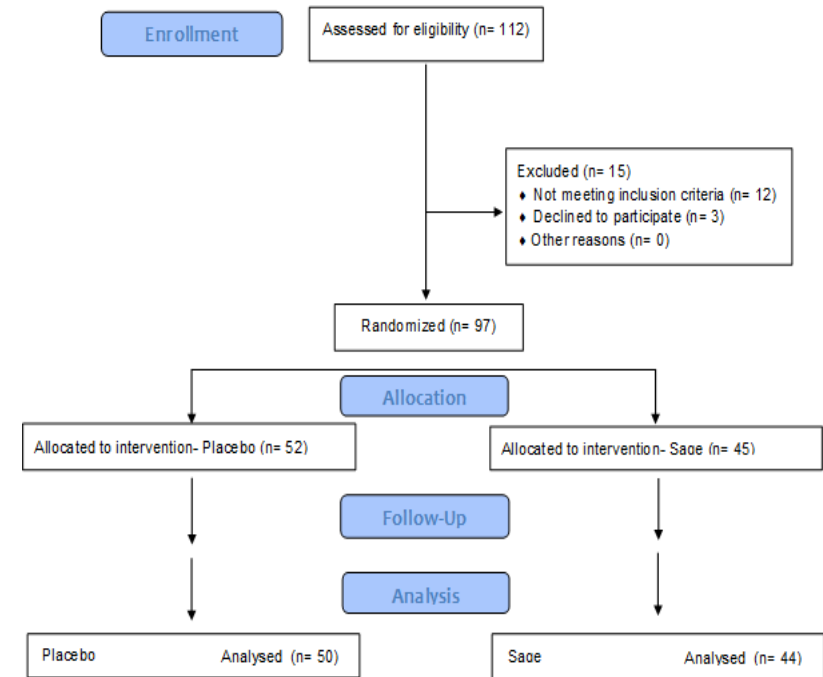
- Acetylcholine Esterase inhibition has been proposed for mechanism in charge of acute effect in human on memory, notably because of content in monoterpenes (eucalyptol, camphor, etc.) and phenolic compounds (rosmarinic acid, apigenin, etc.)<sup>(1)</sup>. => Cognivia is characterised in Monoterpenes and Polyphenols content.

- After prolonged administration, Cognivia has demonstrated a significant increase in Calcium-calmodulin dependent protein kinase II (CaMKII)<sup>(2)</sup>.
- CaMKII is a brain enzyme which triggers key biomolecular functions for signal transduction and connection strengthening in neuronal network<sup>(3)</sup>.
- CaMKII also called '*memory storage molecule*', has been described to be implicated in long term memory, working memory and learning process<sup>(3)</sup>.






# Cognivia - clinical study<sup>(1)</sup>

- **Design**
  - Placebo controlled, double-blind, randomized, parallel group
  - In lab standardised cognitive tests: **Compass battery**
- **Population**
  - **94 participants**
  - Men and women / **30 – to 60 years old**
  - Employment (daytime) or higher education
- **Intervention**
  - **600 mg of Cognivia™** or placebo
  - once a day for **28 days**
- **Outcomes**
  - **Tests' scores** differences
  - Impact on **Cognitive functions**
  - Assessment of **acute** (Day 1) and **chronic** (Day 28) effect.



# Efficacy from single to prolonged used

Overview of all significant changes on tests' scores (comparison between groups of individual variation from baseline)

Test name	Procedure	Acute Effects		Chronic Effect
		Day 1	Day 28	
Corsi blocks	Color sequence memory 	Cognivia p=0.04	Cognivia p=0.002	Cognivia p=0.001
Numeric Working Memory	Series of numbers recall 	-	Cognivia p=0.03	Cognivia p=0.01
Name-to-face Recall	Faces recall 			Cognivia p=0.03

**All Significant results are in favour to Cognivia™**  
**Entire population (without any segmentation)**  
**Increase of benefits over time of consumption**

# Efficacy from single to prolonged used

Tests' scores

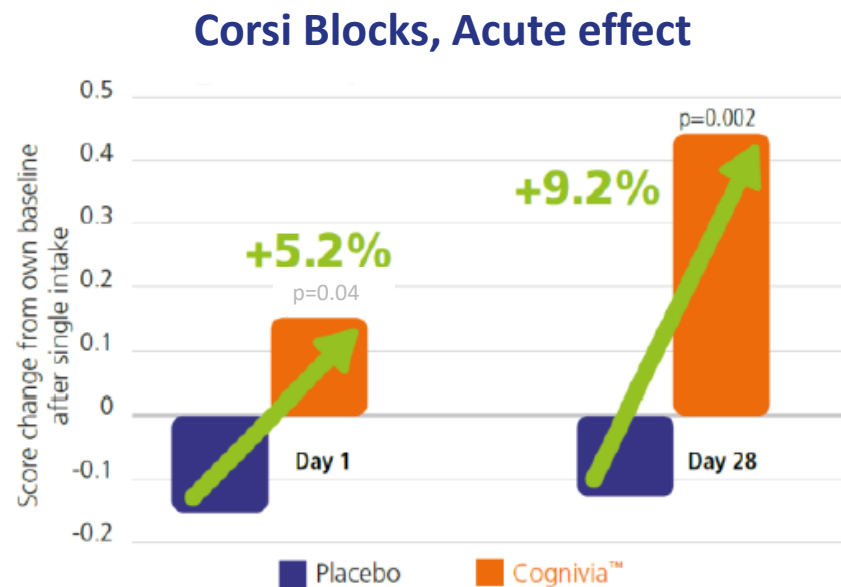


Fig. 1. Acute effect in span score of Corsi Blocks (score difference between the own day baselin (before intake) and after consumption)

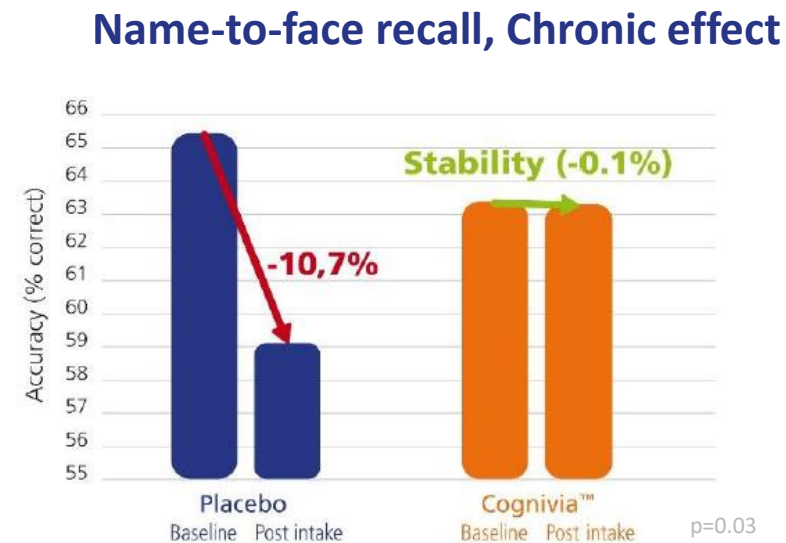


Fig. 2. Chronic effect in accuracy of Name-to-Face Recall (comparison of baseline score at Day 1 and global performance at Day28)

Cognitive Function

**Working memory has been significantly improved by Cognivia (acute and chronic effect ; p=0.006 and p=0.03)**

⇒ Working memory underlies learning, reasoning and interpretations processes.

⇒ In accordance with mechanism of action of Cognivia demonstrated *in vivo*



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Conclusions



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# Cognivia™ key competitive advantages



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## 1 Response to an increasing market demand

- 🌿 Multiple target market segments
- 🌿 Innovative marketing tools
- 🌿 EU pending claim opportunities

## 2 Proprietary studies demonstrating cognitive benefits

- 🌿 Specific mechanism of action
- 🌿 Improvement of working memory
- 🌿 Clinically proven efficacy from single intake to prolonged use

## 3 Ease of formulation

- 🌿 Innovative specific organic acacia gum microencapsulation process
- 🌿 Water-dispersible powder suitable for a wide range of applications
- 🌿 Recommended daily dose: 400 to 600 mg / day





Thank you for your attention!



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