

# *Agmaset<sup>®</sup> and AgmaVet<sup>®</sup> Science Leading to Product*

## Agmaceuticals<sup>™</sup>:

Nutraceuticals containing the  
neuroprotective ingredient  
G-Agmatine<sup>®</sup>.

## G-Agmatine<sup>®</sup> -

The best brand of  
Premium grade agmatine.

<https://ForNerveHealth.com>

Neuroscientists - 1977  
Donated to – Dr. Donald J. Reis's  
Laboratory of Neurobiology, Cornell  
University Medical College.  
(oil pastel on paper)

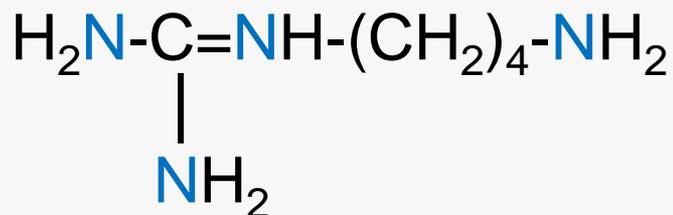


# Agmatine

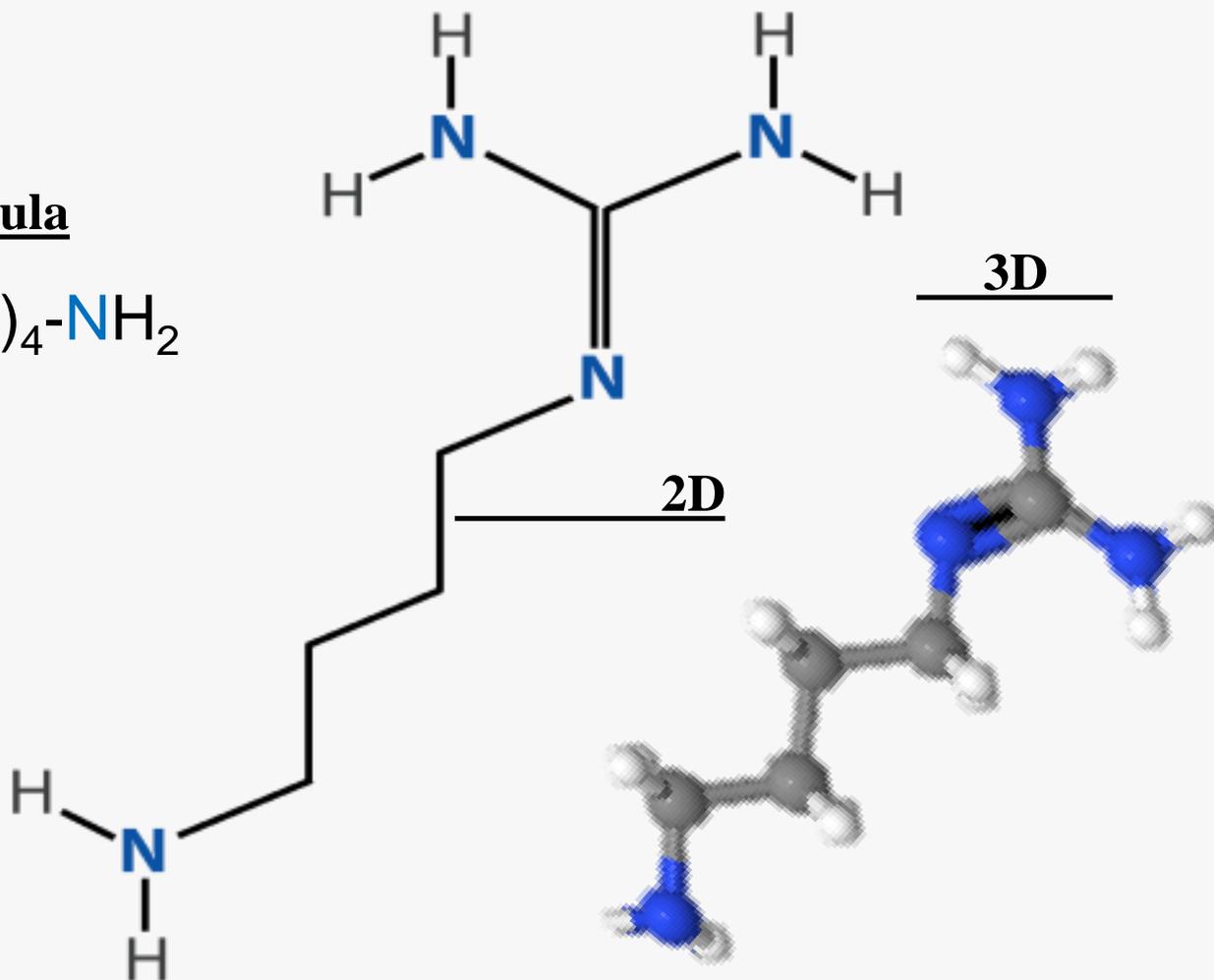
## Molecular Formula



## Chemical Formula



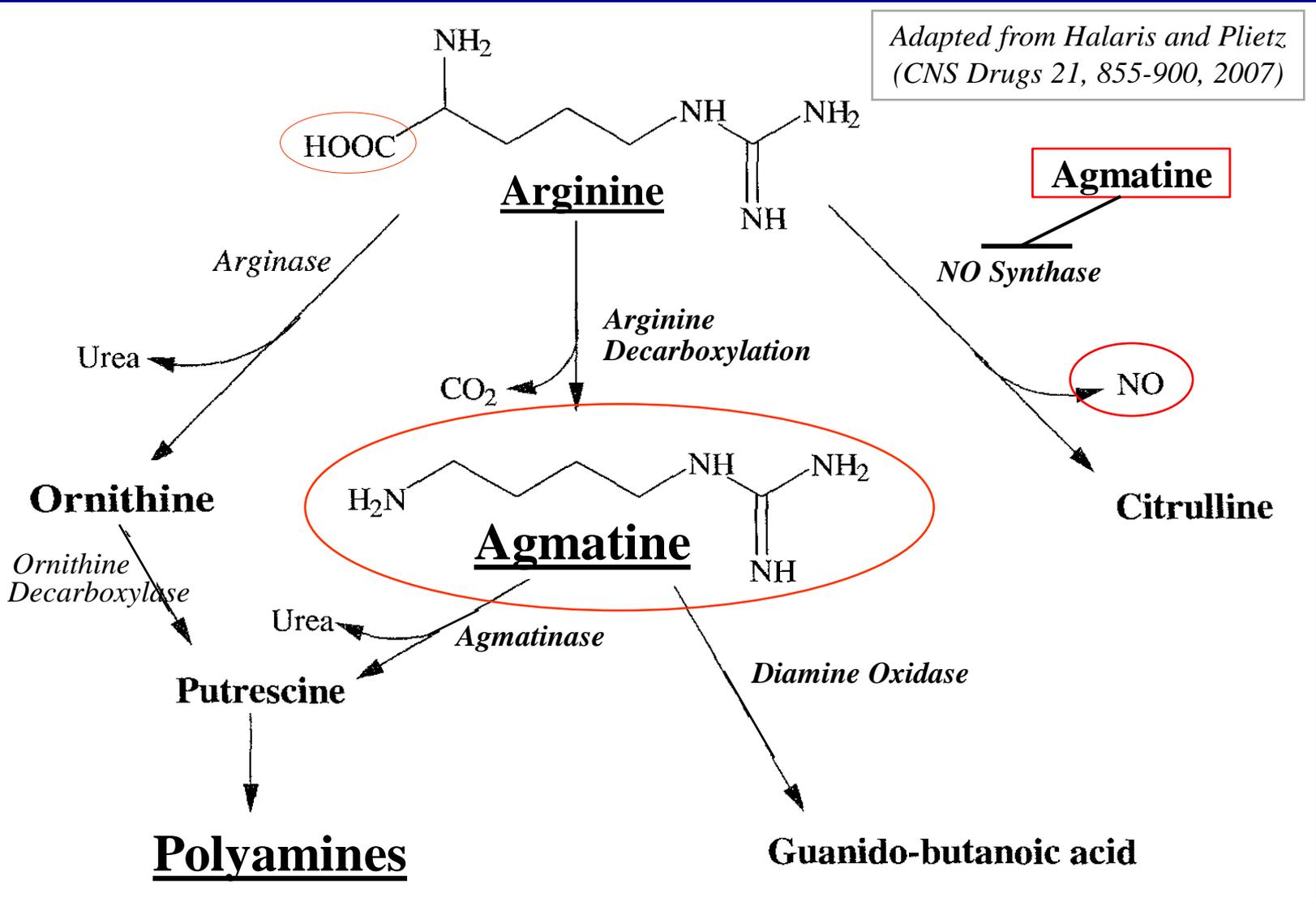
## Structural Formulae



# Metabolic Pathways

**-Agmatine is a metabolite of the amino acid arginine-**  
**But the base agmatine exerts different effects than arginine**

Adapted from Halaris and Plietz  
(CNS Drugs 21, 855-900, 2007)



# Agmatine is a Naturally Occurring Molecule with a Broad Distribution in the Body

- **Brain:** 300 ng/mg
- **Blood:** 47 ng/ml
- **Intestine:** 55 ng/mg
- **Fecal:** 3,290 ng/g

# **Agmatine is a Ubiquitous Compound Present in Many Plant- and Animal-Derived Foodstuff**

- **Commonly found in foodstuff derived from plants, fish and animals (usual range: 0.1 – 10 mg/kg).**
- **High levels are found in certain fish products (200 and up to 650 mg/kg).**
- **Intestinal microbial production is considered a major source of agmatine.**

# **Suggested Utility of Agmatine in Treating a Spectrum of Diseases**

**-Based on Animal Model Experiments-**

- **Neuroprotection.**
- **Healthy pain-free nerve functions.**
- **Healthy mood functions.**
- **Healthy coping with Stress .**
- **Learning and memory enhancement.**
- **Healthy blood glucose regulation.**
- **Healthy blood flow.**
- **Protection of healthy kidney functions.**
- **Healthy control of cell growth.**

# UNIQUE MECHANISM OF ACTION

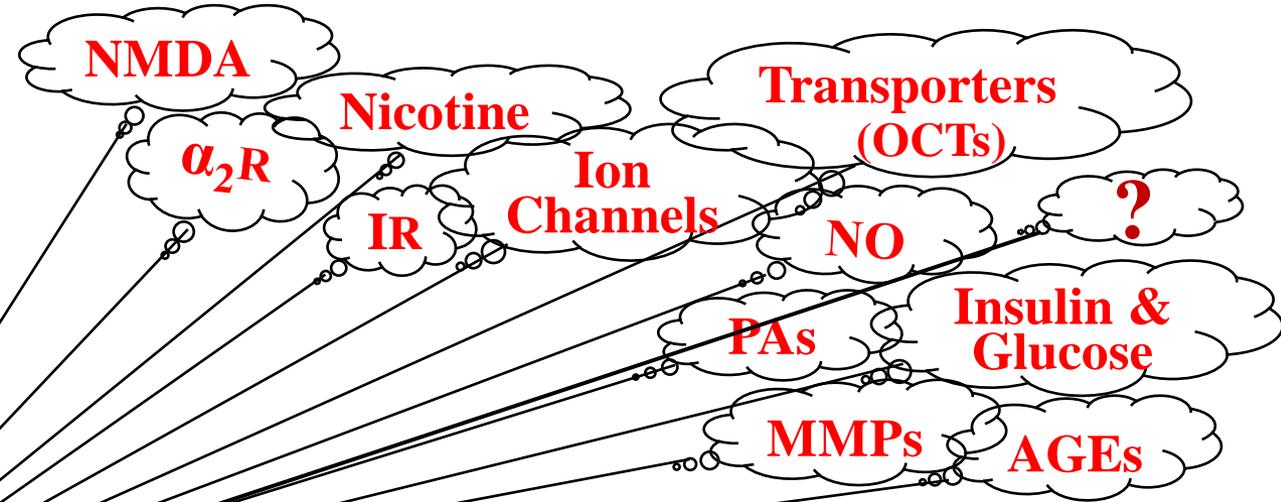
## 'The Molecular Shotgun Concept'

Magic Bullet

(Paul Ehrlich)

Firing Squad

(Polypharmacy)

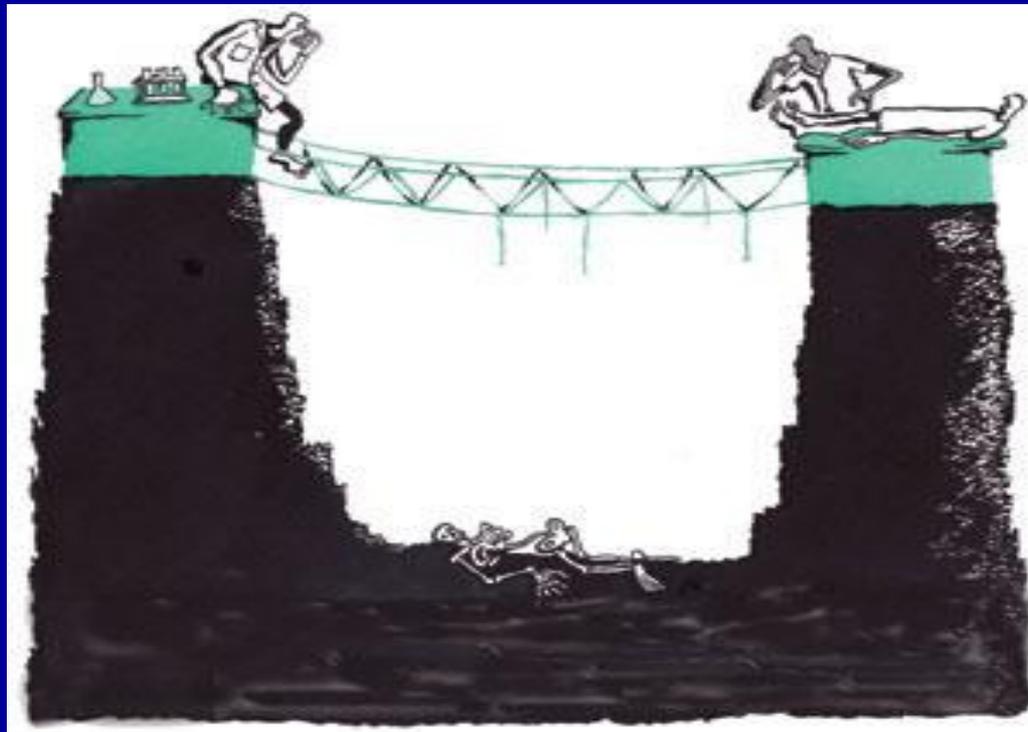


**Agmatine Modulates  
Multiple Molecular Targets**

# Translating Research Into Practice

“The Valley of Death”

Where some 99% of potential treatments fail

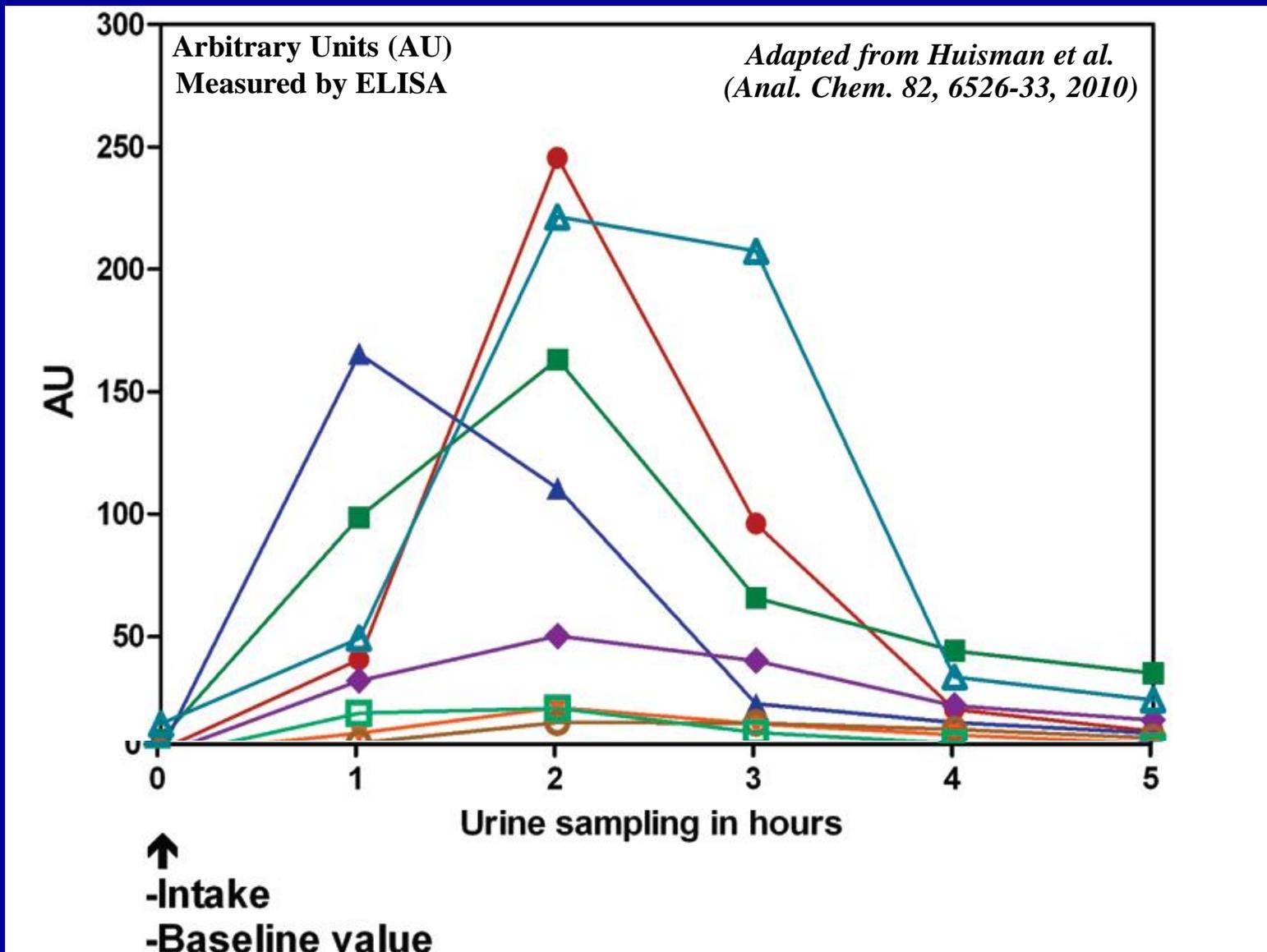


# Human Studies

# Absorption, Distribution, Metabolism, and Elimination

- Oral agmatine is absorbed by the gastrointestinal tract.
- Agmatine is distributed throughout the body. It crosses the blood-brain-barrier (animal studies).
- Agmatine is mostly converted to putrescine, precursor for polyamine synthesis, and urea. Some may be oxidized.
- Agmatine is excreted by the kidneys.

# Agmatine in Urine Following Oral Intake (2 hr apparent blood half-life)



# Addressed Conditions

*Approximately 30 million people in the United States alone cope everyday with circumstances that challenge healthy nerve functions...*

# Safety Clinical Trial

*-Open Label, Dose-Escalating Clinical Study Design-*

Keynan et al., *Pain Med.*, 2010;11(3):356–368



Cohort	Participants [Male] [Female]	Treatment Regimen
1 <sup>st</sup> Cohort	5 [3] [2]	1 capsule 3 times daily (1.335 g G-Agmatine/day) - 10 day treatment
2 <sup>nd</sup> Cohort	5 [1] [4]	2 capsules 3 times daily (2.670 g/day) - 10 day treatment
3 <sup>rd</sup> Cohort	12 [7] [5]	8 daily capsules (2 in the morning, 3 at noontime and 3 in the evening) (3.560 g/day) - 10 day treatment
4 <sup>th</sup> Cohort	12 [8] [4]	8 daily capsules (2 in the morning, 3 at noontime and 3 in the evening) (3.560 g/day) - 21 day treatment



<b>Adverse Effects</b> During 7-month Follow-up	1 <sup>st</sup> Cohort	2 <sup>nd</sup> Cohort	3 <sup>rd</sup> Cohort	4 <sup>th</sup> Cohort
<b>Mild Diarrhea</b>			1	2
<b>Discontinuations – Due to the above Adverse Effects</b>				1
<b>Free Will Discontinuations</b>				1

# Long-Term Safety

## *-A Case Report-*

Gilad and Gilad, *J. Medicinal Food*, 2014;17 (11):1–4



**Regimen:** The recommended daily dose of 2.67 g oral G-Agmatine<sup>®</sup> was taken over a period of 4–5 years. The regimen consisted of six gelatin capsules, each containing 445 mg, taken twice daily three in the morning and three in the evening after meals.

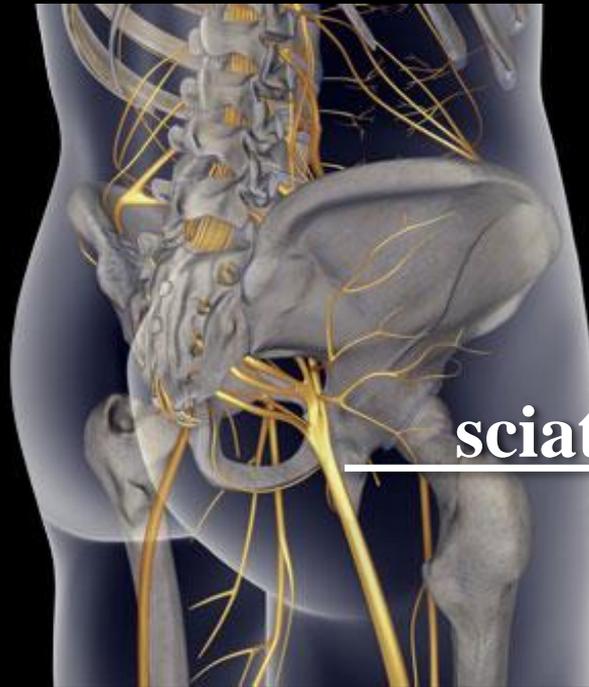
**Measures:** Clinical follow-up consisted of periodic physical examinations and laboratory blood and urine analyses.

**Results:** All measurements remained within normal values and good general health status sustained throughout the study period, up to 5 years.

*The studies provide evidence for the long-term safety of a high daily dosage of G-Agmatine<sup>®</sup> and indicate that it is non-addictive.*

# Translation of Research into Treatment

## -Clinical Study Focused on Sciatic Nerve-



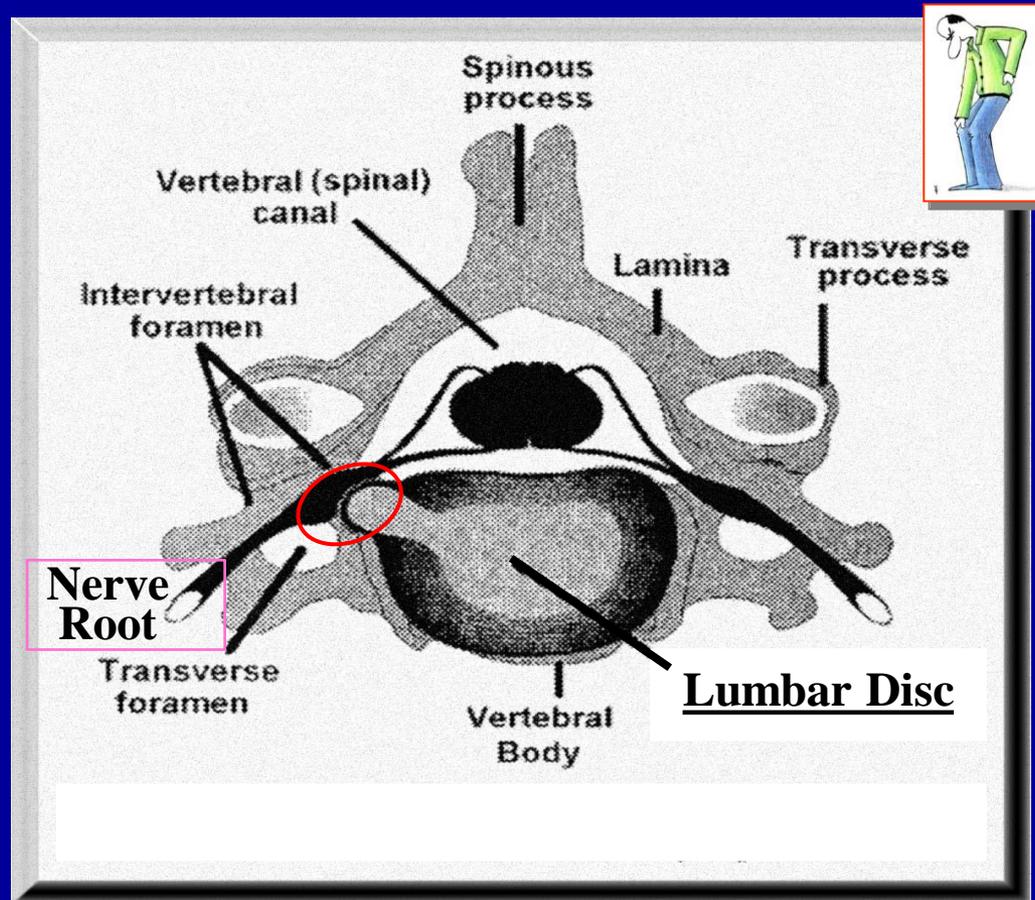
sciatic nerve



*Adapted from WebMD Slideshow:  
'A Visual Guide to Sciatica'*

# Clinical Study

- About 1.5% of the population cope everyday with circumstances that challenge healthy sciatic nerve functions.
- Sciatic nerve functions can be clearly defined and measured.



# Efficacy Study – Sciatic Nerve Functions

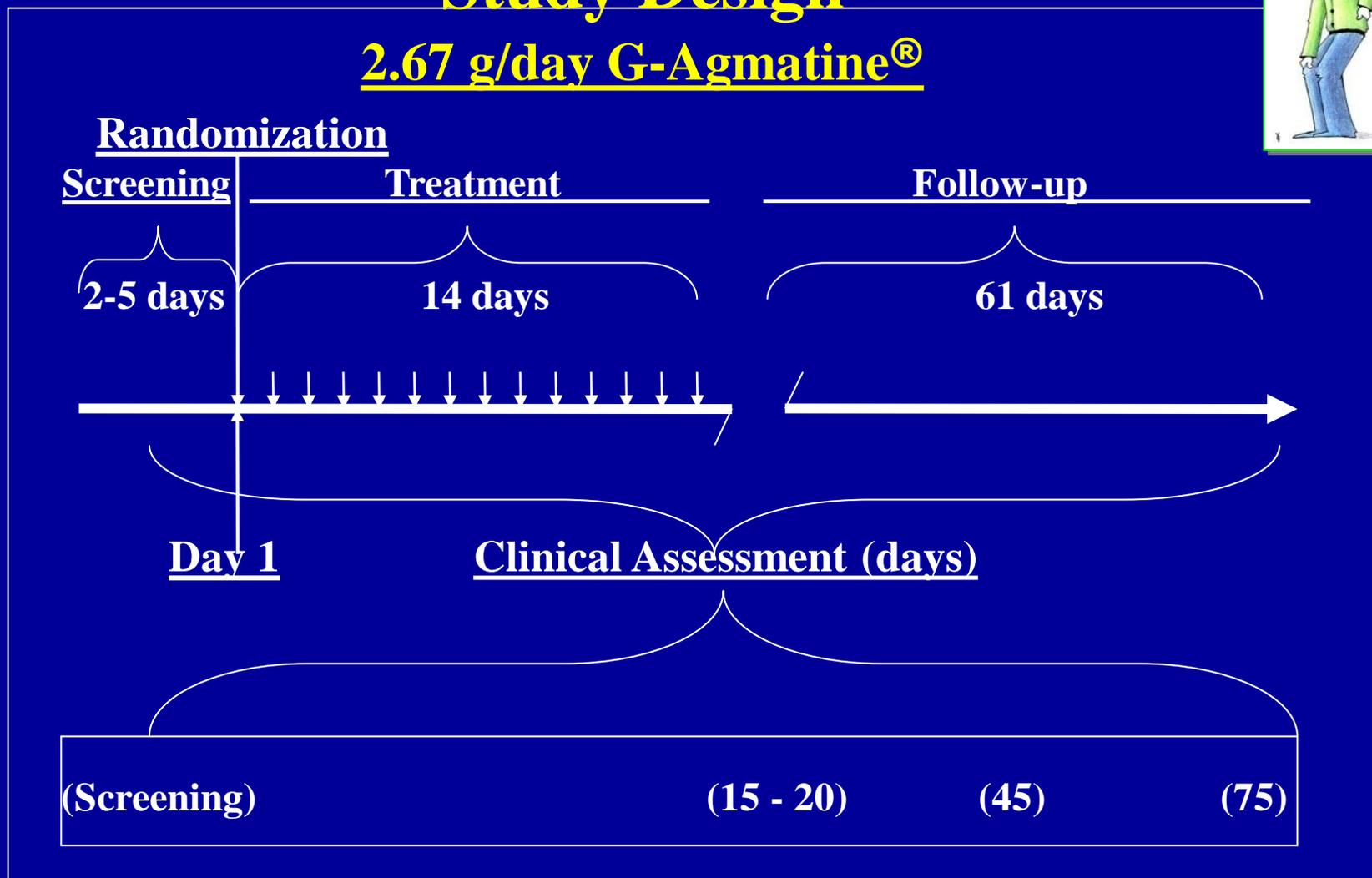


## Randomized, Double-Blind, Placebo-Controlled Trial (RCT)

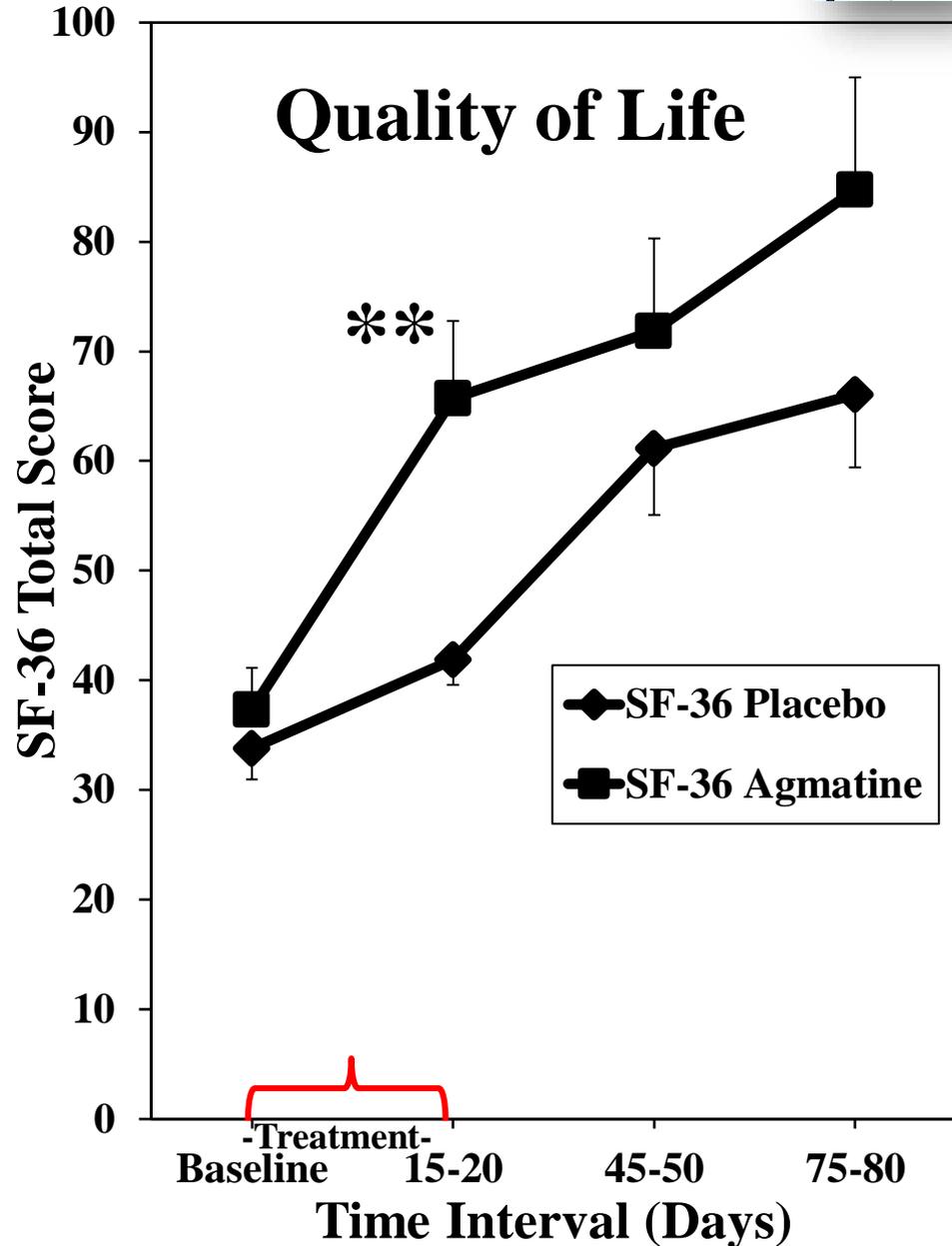
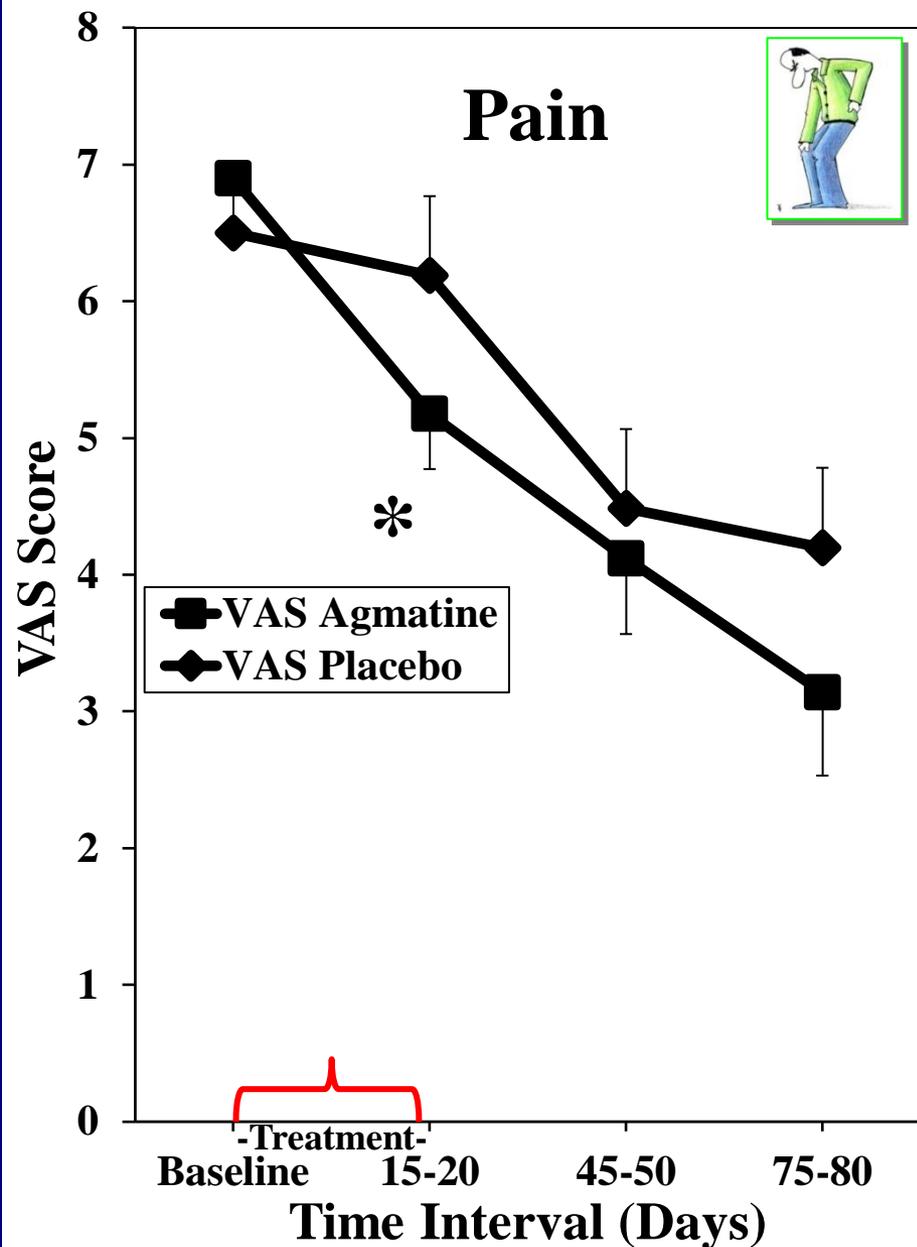
Keynan et al., *Pain Med.*, 2010;11(3):356–368

### -Study Design-

2.67 g/day G-Agmatine®



# Efficacy of *G-Agmatine*<sup>®</sup>



# Effectiveness in Small Nerve Fiber-Associated Pain

## Open-Label Consecutive Case Series Study

Rosenberg et al., *Nutrients*, 2020;12(2):576

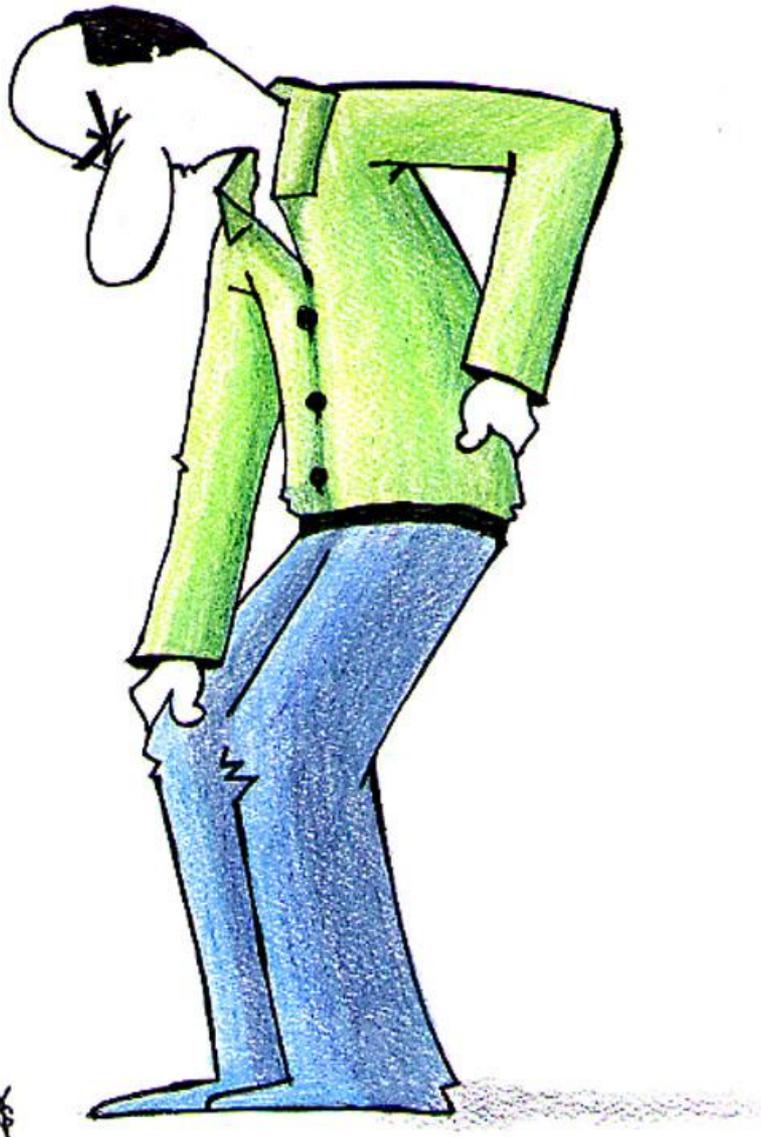
➤ *Small fiber nerve malfunctions underlie symptoms associated with various types of bodily systems disorders*

**Study Regimen- 2.67 g/day G-agmatine® for 60 days**

**Pain questionnaire ratings before and after 60-day treatment with G-Agmatine®**

Patients (11)	Average Pain Before Treatment	Average Pain After Treatment	Absolute Decrease (Rating Points)	Percent Decrease
Average ± SD	56.1 ± 18.2	30.1 ± 16.9	26.0 *	46.4% *

\*Highly significant ( $p < 0.00001$ , paired  $t$ -test). SD, standard deviation.



# ‘Proof-of-concept’

The human clinical studies  
serve a

**Proof-of-Concept** indicating the  
safety and effectiveness of  
**G-Agmatine®** treatment for  
healthy nerve functions under  
stressful conditions

# Recommended Effective Regimen

- **2 to 3 capsules twice a day with or after meals for as-long-as needed (each capsule contains 450mg of *G-Agmatine*®).**
- **Time to effect -**
  - **In acute circumstances: 2 - 4 days in most but may be as-long-as 2 to 4 weeks.**
  - **Chronic conditions: 3 - 6 weeks.**
- **After the effect is established – the dosage may be gradually reduced for maintenance regimen.**



# AgmaSet®

## First-of-its-Kind Dietary Supplement Containing G-Agmatine® For Nervous System Health and Resilient Nerve Functions

### For Healthy Nerve Functions\*

DIRECTIONS FOR USE: Adults, 2 capsules twice or three-times a day with or after meals, or as recommended by your physician, pharmacist or healthcare professional.

NOTE - Pregnant or nursing women, children and ill or medication-taking people should consult a physician before use. May cause diarrhea.



- Keep Out of the Reach of Children.
- Do Not Use If Printed Seal is Broken or Missing
- Store in a Closed Bottle at Temperature Not Exceeding 30°C (86°F) and Humidity Not Above 70% RH.

\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

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info@ForNerveHealth.com  
<https://ForNerveHealth.com>



Gilad&Gilad

FOR NERVE HEALTH



# AgmaSet®

The Exclusive G-Agmatine® Source

### For Healthy Nerve Functions

Dietary Supplement 120 Capsules

### Supplement Facts

Serving Size: 2 Capsules  
Servings per Container: 60

Amount per Serving	% Daily Value
Calories:	less than 1
Agmatine Sulfate (as G-Agmatine®)	900 mg †

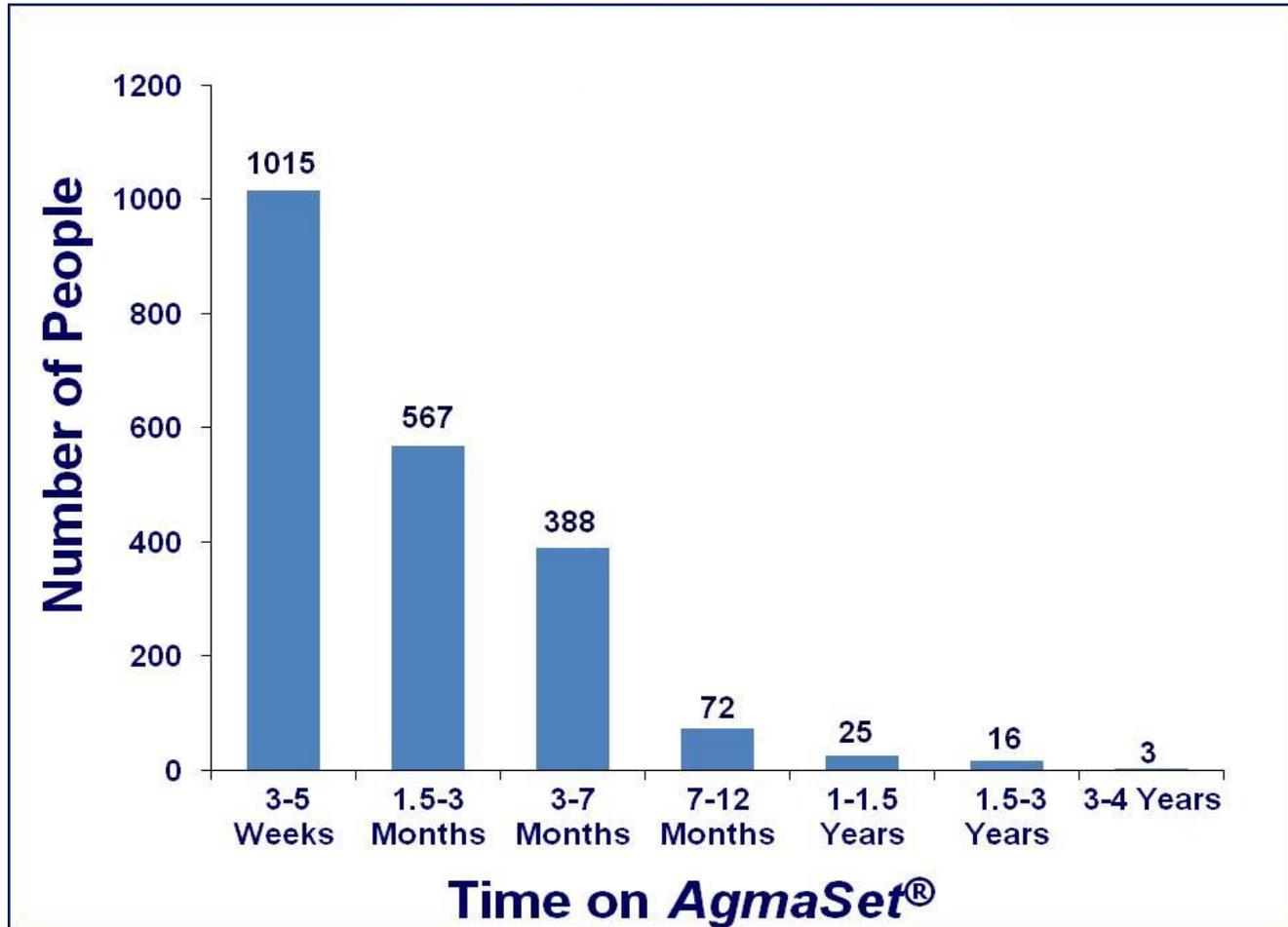
†Daily Value Not Established

Other Ingredients: Gelatin, titanium dioxide (as capsule color), water.  
**No allergens, preservatives or additives. Gluten-Free.**  
Each bottle contains one (1) nontoxic desiccant packet.  
G-Agmatine® is a trademark brand of Gilad&Gilad LLC.  
Patents: US 8,916,612; US 9,585,852; US 11,622,949 B1.

MADE IN THE  
**USA**  
with domestic and imported ingredients



# Safety and Effectiveness of *AgmaSet*<sup>®</sup> 2010 – 2013\*



**\*Surveillance of people who took *AgmaSet*<sup>®</sup> during the years 2010 and 2013.**

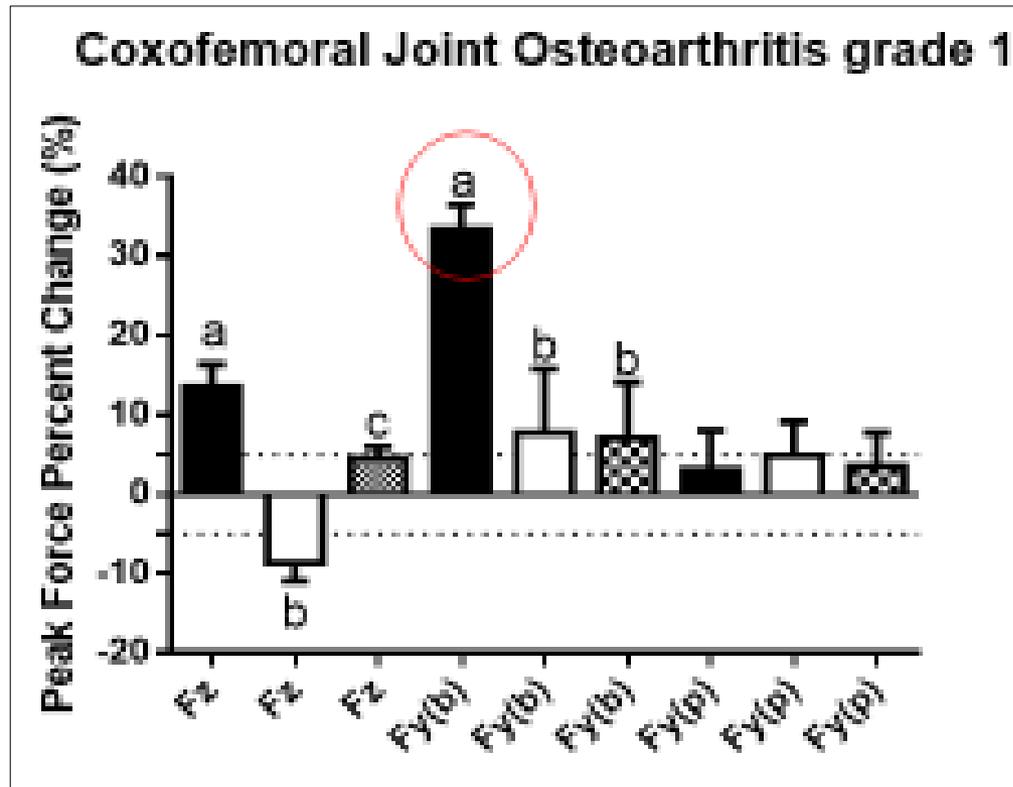
**-No adverse effects were reported. -Three people reported soft stool or mild diarrhea.**

# Animal Studies

# Effectiveness in Dog Hip Joint-Associated Symptoms

-A Randomized, placebo-controlled, crossover design-

Taguchi et al., *Frontiers Vet. Med.*, 2018; 5, Article 311

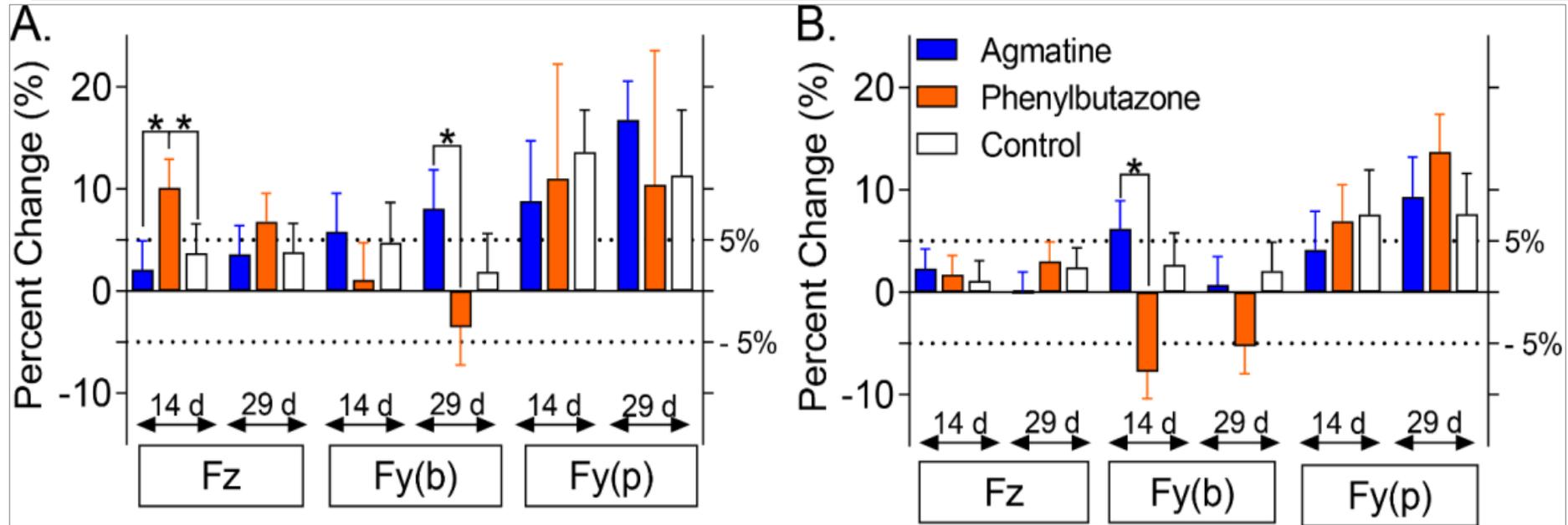


Peak force percent change (mean +/- SEM) in dogs with grade 1 coxofemoral (hip) joint osteoarthritis following treatment with agmatine (black bars), placebo (white bars), or carprofen (gray bars). Fz, vertical force; Fy(b), braking force; Fy(p), propulsion force. Letters indicate significant differences among treatment groups ( $p < 0.05$ ). Dashed horizontal lines demarcate 5% positive (upper) or negative (lower) changes.

# Effectiveness in Horse Lameness and Gastric Ulceration

-A Randomized, placebo-controlled, crossover design-

Taguchi et al., J. Clin. Med., 2022; 11, 7283

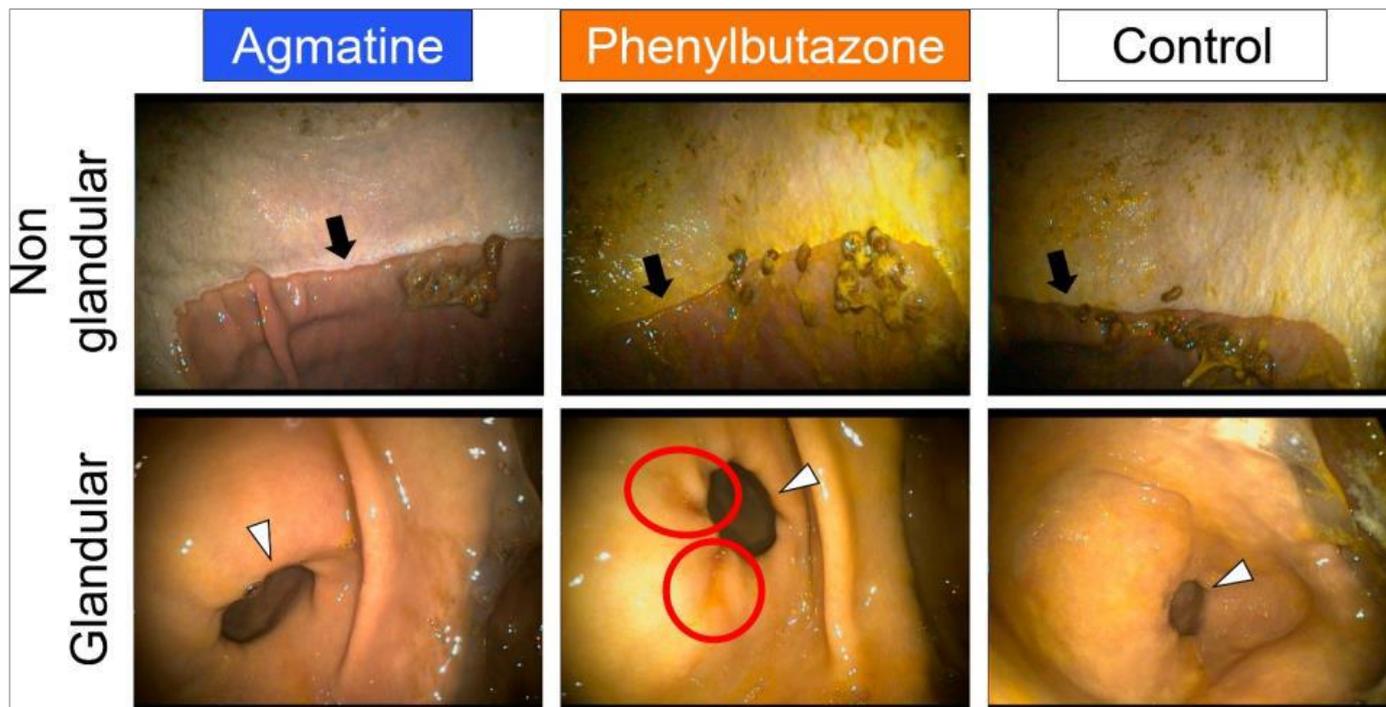


Percent change in lameness scale (LS mean  $\pm$  SEM) in thoracic limb ground reaction forces over the baseline. Peak force (A) and impulse (B) in vertical (Fz) and craniocaudal braking (Fy(b)) and propulsion (Fy(p)) after 14 and 29 days of oral agmatine (blue), phenylbutazone (orange), or control (white) administration. Asterisks indicate differences among treatments within time points ( $p < 0.05$ ). A 5% change from the baseline (dotted lines) is indicated.

# Effectiveness in Horse Lameness and Gastric Ulceration

**-A Randomized, placebo-controlled, crossover design-**

Taguchi et al., J. Clin. Med., 2022; 11, 7283



Representative gastrosopic images of equine non-glandular and glandular gastric mucosa after 30 days of oral agmatine (**left**), phenylbutazone (**middle**) or control (**right**) administration. Ulcers in the glandular region are indicated with red circles. The margo plicatus (black arrows) and pylorus (white arrowheads) are also visible.



# AgmaVet<sup>®</sup>

## For Your Animal's Daily Diet

### Containing G-Agmatine<sup>®</sup>

## For Resilient Nerve Functions

### For Healthy Nerve Functions

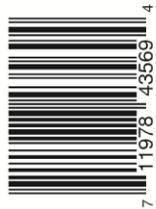
#### Directions for use:

Adult animals - Recommended administration is 1 to 3 capsules a day (depending on body weight) with or after meals. Initial administration period is 4 to 6 weeks; however, some animals may respond in a shorter time period. The number of capsules may then be gradually reduced to an effective maintenance level.

Note - For pregnant or nursing females, young ones or ill and medication-taking animals, consult a veterinarian or health professional before use. May cause diarrhea.

Visit <http://ForNerveHealth.com>

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**Gilad&Gilad** FOR NERVE HEALTH



**AgmaVet<sup>®</sup>**  
The Exclusive G-Agmatine<sup>®</sup> Source

For Healthy Nerve Functions

120 Capsules

#### Each Capsule Contains:

Agmatine Sulfate (as G-Agmatine<sup>®</sup>).....450 mg\*

Other Ingredients: Gelatin, titanium dioxide (as capsule color), water.  
No allergens, preservatives or additives. Gluten-Free.

Each bottle contains one (1) nontoxic desiccant packet.

\*Not recognized by the AAFCO as an essential animal nutrient.

G-Agmatine<sup>®</sup> is a trademark brand of Gilad&Gilad LLC. Patents U.S. 8,916,612; U.S. 9,585,852.

- Keep out of the reach of children.
- Do Not Use If Printed Seal is Broken or Missing.
- Store in a Closed Bottle at Temperature Not Exceeding 30°C (86°F) and Humidity Not Above 70% RH.

MADE IN THE

**USA**

with domestic and imported ingredients



## “Alternative” Agmatine Sulfate-Containing Products

- All alternative products containing agmatine sulfate are based on borrowed science. All clinical studies are “borrowed” from Gilad&Gilad.
- Products targeting the bodybuilding field are all touted based on scientifically unsubstantiated claims and on downright erroneous scientific information.
  - ❖ No evidence for enhanced muscle protein synthesis.
  - ❖ No evidence for enhanced Growth Hormone functions.
  - ❖ Agmatine may modulate Nitric Oxide (NO) synthesis but does not enhance NO content.

# THANK YOU!

## PLEASE SPREAD THE GOOD NEWS



**Any Questions ?**

Call us: (toll-free) 1-888-484-4523, or 1-702-233-5553

Contact us via email: [info@ForNerveHealth.com](mailto:info@ForNerveHealth.com)

<https://ForNerveHealth.com>