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Magnesium Glycinate vs. L-Threonate vs. Oxide: Which Is The Best Magnesium Supplement? Posted by Nootropics Dept on 1st Oct 2020

#### WHY MIGHT WE WANT TO TAKE A MAGNESIUM SUPPLEMENT?

urmingly common problem in the United States. Recent research indicates that up to 50% of Americans have significantly v and brain uses magnesium in many processes. For this reason, many people recently have included foods with high mate btain magnesium through food, there are problems when depending solely on food for magnesium.

t should be high in magnesium are well below where they should be. Research has shown that magnesium levels are decint in wheat dropped a whopping 20% since 1968! Research is finding that these drastic drops in magnesium appear to be

*t at the cost of less magnesium in those crops (yield dilution). soils.* 

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#### WHAT CAUSES A MAGNESIUM DEFICIENCY?

that magnesium levels are decreasing in most foods... With the magnesium content decreasing in crc

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psorbed. With the magnesium content decreasing in crops and the increase in the consumption of processed foods, magnesium hally, there are several other variables that were recently revealed that also contribute to the prevalence of magnesium deficience

# MAGNESIUM GLYCINATE VS. MAGNESIUM L-THREONATE VS. MICROMAG: WHICH FORM OF MAGNESIUM IS BEST?





MicroMag Capsules | 625mg | Optimized Magnesium

What To Know About MicroMag Optimized Magnesium

🗹 Contains Magnesium Oxide Encased In A Sucrosome Structure To Increase Absorption And Mitigate Stomach Discomfort\*

☑ 32-38% Elemental Magnesium\*

☑ Also Known As Sucrosomial® Magnesium\*

☑ Excellent Introduction To Learn What A High-Quality Magnesium Supplement May Do For You\*

☑ Low Dosage Requirement\*

		Size		
30ct.				~
		SOLD OUT		
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Magnesium Glycinate Capsules | 800mg

What To Know About Magnesium Glycinate

☑ Fully Chelated To Promote Absorption\*

☑ Also Known As Magnesium Bisglycinate\*

☑ 12.5% - 15% Elemental Magnesium\*

☑ Best Magnesium For Sleep Quality\*

☑ Ideal Magnesium To Take At Night\*

☑ Supports Muscle Health\*

☑ Most Cost-Effective, High-Absorption Magnesium Supplement\*

180ct.

Size

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Magtein Magnesium L-Threonate Capsules   667mg
What To Know About Magtein Magnesium L-Threonate
☑ Best Magnesium For Cognition*
☑ 7.2 - 8.3% Elemental Magnesium*
☑ Developed By A Team Of Scientists At MIT*
☑ Ideal Magnesium To Take In The Morning*
☑ Efficacy Backed By Research Studies*
Size
90ct. 🗸
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### **OTHER CAUSES OF MAGNESIUM DEFICIENCY**

★ High consumption of calcium and vitamin D through diet or through supplements. Calcium competes with magnesium for absorption. Therefore, if more calcium is being consumed than magnesium, then magnesium absorption will be inhibited. Vitamin D leads to increased calcium absorption, and through this mechanism, inhibits magnesium absorption even further.

st Consumption of soda and foods such as processed meats that contain phosphoric acid.

X Sweating during sports - athletes are at risk of magnesium deficiency as magnesium is excreted through sweat.

X Consumption of aluminum through aluminum cookware, baked goods/baking powder, and deodorant. Aluminum decreases the absorption of magnesium by five-fold in addition to leading to a 41% decrease in magnesium retention.

X Vitamin B6 deficiency leads to increased magnesium excretion.

#### HOW TO CORRECT MAGNESIUM DEFICIENCY

It would seem that the easiest solution to a magnesium deficiency would be to take a magnesium supplement. Howeve this can prove to be challenging. There are three factors we should consider when it comes to taking a magnesium

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#### - Can I use different transporters for absorption?

First of all, the content of actual magnesium in magnesium salt needs to be considered. Magnesium oxide contains 60.5% elemental magnesium, making it a good source for a magnesium supplement, because a small dose will provide a large amount of magnesium, which is why magnesium oxide is the most common magnesium supplement. It's also inexpensive to produce. The problem lies in the fact that it has poor bioavailability, which means that magnesium in its most elemental form, will not be absorbed well by the gastrointestinal tract.

This is an issue; as increasing the doses of magnesium oxide to compensate for the low bioavailability may create a significant laxative effect. This is due to the magnesium oxide having an osmotic effect in the GI tract. Magnesium oxide also forms insoluble salts with other compounds in the GI tract; which prevent it from being absorbed fully before it's excreted. Additionally, magnesium salt needs to be solvated in order for it to be absorbed and the elemental magnesium needs to be separated from the salt so it can be absorbed through the ion channels in the GI tract. All elemental minerals are absorbed this way. They all flow through ion channels, however, they all compete with one another to do so.

The solution to this issue of poor bioavailability is to bond or chelate magnesium with amino acids. This allows the amino acid to attach to the reactive sites of the magnesium ion, significantly increasing the ability of absorption of magnesium.

This is due to:

- Magnesium chelates can absorb through amino acid transporters in addition to the magnesium transporter.
- Magnesium transporter efficiency is enhanced due to pH modification of magnesium. The pH of magnesium can
  decrease the efficiency of the magnesium transporter, which limits the absorption of magnesium. By buffering the pH
  with amino acids, magnesium transporter efficacy can be greatly enhanced.
- Compounds such as phytic acid can no longer bind to the reactive sites of magnesium, which enhances absorption.
- Magnesium, when it comes into contact with water, attracts water molecules. This increases the size of the
  magnesium ion, which decreases magnesium absorption. Chelation with amino acids can help limit the amount of
  water molecules the magnesium ion attracts, thereby enhancing absorption.

Based on the factors discussed above, we concluded that amino acid chelated magnesium is a fantastic option for highly bioavailable magnesium supplementation. Therefore, we carry two forms of magnesium amino acid chelates: <u>Magtein</u> and fully chelated <u>Magnesium Glycinate</u>. Why two different magnesium amino acid chelates? Amino acids that are chelated with magnesium have their own ability to impact how the magnesium is absorbed and distributed in the body. Magtein is chelated with L Threonate, which is an amino acid that helps transport magnesium to the brain. As for the fully chelated magnesium glycinate, the magnesium is chelated with glycine, which has good pH buffering activity and also helps promote calming effects.

#### MAGTEIN: WHAT IS MAGNESIUM L THREONATE USED FOR?

<u>Magtein Magnesium L Threonate</u>, developed by a team of MIT scientists, is a patented form of magnesium. When developing Magtein Magnesium L Threonate, the goal was to have a magnesium amino acid chelate that reached the brain efficiently. Developers decided that the amino acid L-Threonate, which is a metabolite of vitamin C, would be best for this function. L-Threonate is a unique amino acid which appears to enhance mitochondrial function, synaptic density, and neuroplasticity on its own. It partially elevates neuronal intracellular magnesium levels which act as a second messeng The chelation of <u>Magtein Magnesium L Threonate</u> allows L-Threonate to enhance neuronal intracellular magnesium levels,

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effective at elevating magnesium levels in the brain. Research has indicated that magnesium L threonate is one of the only forms of magnesium that reaches and enters the brain efficiently at significant levels. Magnesium is an essential player in various brain processes in the brain that help regulate mood and memory function, making Magnesium L Threonate a good form of magnesium for brain health and function.

### Magtein Magnesium L-Threonate Study

One of the ways that Magnesium L Threonate promotes cognition is by elevating the density of NR2B containing NMDA receptors. The NMDA receptors play a critical role in learning and memory, since NMDA receptor activation kickstarts a process known as long term potentiation (LTP). LTP is one of the primary ways that our brains encode memories, thus enhancing LTP through increased NMDA receptor density should help support memory and learning. The increased density of NR2B containing NMDA receptors appears to be due to L-Threonate enhancing neuronal intracellular magnesium levels. However, it's important to note that NMDA receptor activation may also lead to overexcitation of the brain, which can have detrimental effects on cognition. Fortunately, magnesium shows capability to block the NMDA receptor in such a way that only very strong signals will be able to activate them. Thus, the magnesium part of Magnesium L Threonate is critical in achieving enhanced, yet well balanced, NMDA activation. In fact, by lowering the sensitivity of NMDA receptors through blocking them, magnesium bound to the NMDA receptor will also help up-regulate NMDA receptors even more. The end result makes it so that once a strong enough signal activates the NMDA receptors, the degree of activation should be much greater.

All of these benefits have been verified in a <u>Magnesium L Threonate</u> MIT study, and overall it seems that Magnesium L Threonate benefits brain health the most. Besides being the best form of magnesium for the brain, other <u>Magnesium L Threonate</u> benefits include:

1. Highly bioavailable, a good choice for adding magnesium back into your diet quickly.

2. Very mild taste, easy to add to drinking water.

90ct.	Magtein N	Aagnesium L-Threonate Capsul Size \$39.99	es   667mg	~
		ORDER NOW		
		<b>.</b>		
Support	Categories	Account	Contact	4.9 **** Google Customer Reviews



## ✓ Efficacy Backed By Research Studies\*

✓ 7.2 - 8.3% Elemental Magnesium\*

✓ Ideal Magnesium To Take In The Morning\*

## ✓ Developed By A Team Of Scientists At MIT\*

## ✓ Mild Flavor Profile\* (<u>Buy Powder</u>)

#### MAGNESIUM GLYCINATE USES

<u>Magnesium Glycinate</u>, is magnesium chelated with the amino acid glycine. Glycine is one of the main inhibitory amino acid neurotransmitters; it even has its own receptor, known as the Glycine receptor. The activation of the glycine receptor may relax muscles, promote relaxation and enhance sleep. The glycine receptor is also located on the NMDA receptor. Activating the glycine receptor on the NMDA receptor makes the NMDA receptors more sensitive and may enhance cognition as well as promote positive mood.

So why chelate magnesium with glycine? Well, chelating magnesium with glycine makes for a very good pH buffer. This is crucial since magnesium absorption through the magnesium transporter is very dependent on pH levels. Because glycine acts as a buffer for the pH of magnesium, it allows for more efficient absorption through the magnesium transporters.

After Magnesium Glycinate has been absorbed, glycine separates from the magnesium and glycine and magnesium can complete their functions. Glycine, because it's an inhibitory neurotransmitter, performs calming effects on the brain and throughout the body. Therefore, Magnesium Glycinate is the preferred magnesium for promoting healthy sleep architecture.

Due to both the relationship between magnesium and sleep in addition to glycinate and sleep, Magnesium Glycinate benefits sleep the most. Additional Magnesium Glycinate benefits include:

#### 1. Relatively affordable for a high bioavailability magnesium supplement.

#### 2. Contains a higher percentage of elemental magnesium compared to Magtein.

However, one major drawback of Magnesium Glycinate is its taste. Magtein is a great magnesium supplement that can.

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Magnesium Glycinate Capsules   800mg Size 180ct. \$24.99 ORDER NOW
✓ Best Magnesium For Sleep Quality*
✓ Fully Chelated To Promote Absorption*
√ 12.5% - 15% Elemental Magnesium*
✓ Most Cost-Effective, High-Absorption Magnesium Supplement*
✓ Ideal Magnesium To Take At Night*

## SUCROSOMIAL MAGNESIUM AS MICROMAG

The main issue with highly bioavailable forms of magnesium like Magnesium Glycinate and Magnesium L Threonate, is that you have to take pretty large doses to achieve optimal elemental Magnesium levels. So what's the best way to achieve a low dosage of magnesium with high bioavailability? The answer is with Sucresters!

## WHAT IS A SUCRESTER?

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The sucresters also defend the minerals from our stomach acid, thus preventing Magnesium from binding to other nutrients, which is how Magnesium bioavailability degrades most often.

One of the main advantages to <u>Sucrosomial Magnesium</u>, is that the elemental magnesium content stays high. With an extraordinary 32-38% elemental Magnesium, MicroMag carries more than twice the elemental magnesium content of Magnesium Glycinate! Additionally, due to the interactions between sucresters and and various cells within our bodies (particularly in the intestines), sucrosomial magnesium is exceptionally bioavailable.

For people that want to elevate their Magnesium levels, Sucrosomial Magnesium is the best option. For those looking for more specific secondary effects, such as promoting sleep quality or supporting overall cognition, Magnesium Glycinate and Magnesium L Threonate may be better options if you seek more of these secondary effects. For example, the glycine content in <u>Magnesium Glycinate</u> may help promote sleep quality, while the Threonate content of <u>Magnesium L Threonate</u> may help support cognitive function.

MicroMag Capsules   625mg   Optimized Magnesium Size 30ct.
Sold out SOLD OUT
✓ Best Magnesium For General Magnesium Deficiency*
✓ Contains Magnesium Oxide Encased In A Sucrosome Structure To Increase Absorption And Mitigate Stomach Discomfort*
√ 32-38% Elemental Magnesium*
✓ Excellent Introduction To Learn What A High-Quality Support Categories Account Contact



## ✓ Low Dosage Requirement\*

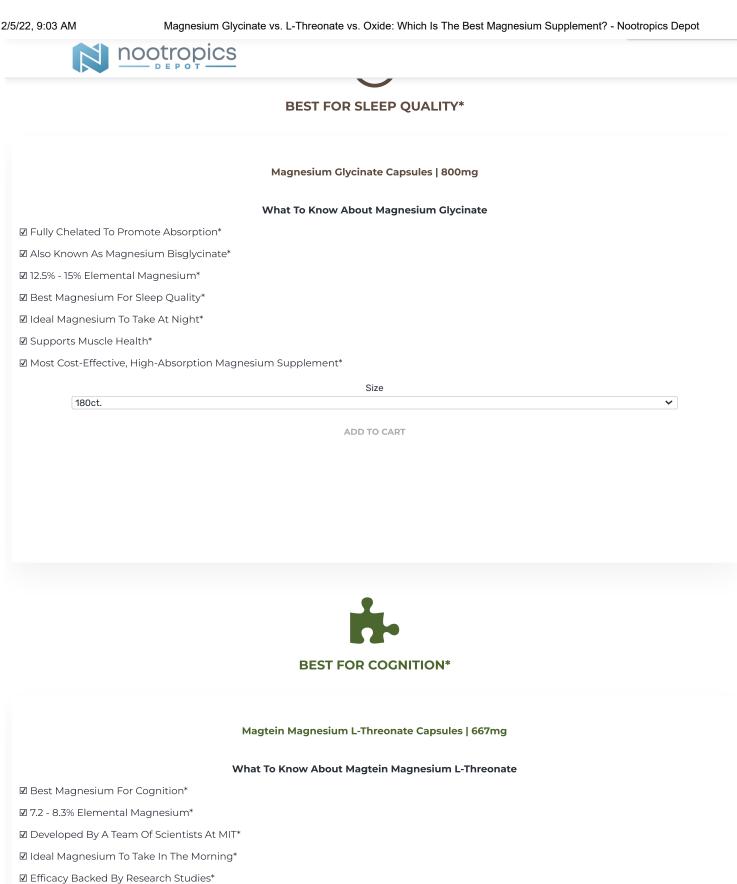
### WHO SHOULD TAKE A MAGNESIUM SUPPLEMENT?

Because magnesium deficiency is very common, most people could benefit from taking more magnesium. People who experience muscle cramps could benefit from magnesium supplements, as cramps may be a result of a magnesium deficiency. In addition, people looking to support cognition and promote positive mood could benefit from taking magnesium can also help people who drink alcohol, since alcohol reduces both magnesium and vitamin B6 content in the body. In other words, taking Magnesium may help the body get back in balance after a night out drinking.

#### MAGNESIUM GLYCINATE VS. MAGNESIUM L-THREONATE VS. MICROMAG: A COMPARISON RECAP



	MicroMag	Capsules   625mg   Optimized	Magnesium	
	What To Kno	ow About MicroMag Optimize	d Magnesium	
🛙 Contains Magnesium Oxide		Structure To Increase Absorptio		comfort*
☑ 32-38% Elemental Magnesi				
Also Known As Sucrosomia				
		Magnesium Supplement May [	Jo For You*	
☑ Low Dosage Requirement*				
		Size		
30ct.				~
		SOLD OUT		
Support				4.9 **** Google
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	Size	
90ct.		♥
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#### Comparing Magnesium Glycinate, Magtein Magnesium L-Threonate, and MicroMag

A Magnesium Glycinate supplement is much less expensive than Magtein Magnesium L Threonate. It also contains more elemental magnesium than Magtein. Magnesium Glycinate would also be the best choice for someone who is looking for the benefits of the relaxation aspects of this supplement. Magnesium L Threonate on the other hand, is the best choice for someone who is looking to support cognition. The drawback is that the daily intake recommendation of 400mg may be quite costly for the consumer. Therefore, the following would be recommended: Taking Magtein early in the day to promote cognitive function, then taking magnesium glycinate later in the day to support healthy sleep patterns. Taking both forms allows for more elemental magnesium, thus promoting relaxation, healthy sleep patterns and brain health.

However, if your goal is to simply increase your Magnesium intake, <u>MicroMag</u> is going to be your best choice. The main advantage of MicroMag is that, unlike Magnesium Glycinate and Magtein, it does not have many auxiliary effects. This makes Sucrosomial Magnesium perfect for adding to nootropic stacks or supplement regimen, so that the Magnesium does what it needs to without overriding other elements in your stack. This is, what in our opinion, makes MicroMag the best Magnesium supplement for correcting a magnesium deficiency. <u>Sucrosomial Magnesium</u> does one thing really well without providing additional benefits that you may not be looking for. Yes, consuming more magnesium may help you have better sleep, or may even help promote a positive mood and cognitive function, but Magnesium Glycinate or Magnesium L Threonate may be a better choice if you are looking for more of these secondary effects.

For those that want to correct a Magnesium deficiency, or just benefit overall from higher Magnesium levels, MicroMag will be the best choice. On the other hand, <u>Magnesium Glycinate</u> may help promote sleep quality, while the Threonate content of <u>Magnesium L Threonate</u> may help promote cognitive function.

## **TOP 3 RECOMMENDED MAGNESIUM STACKS**

	MICROMAG OPTIMIZED	MAGNESIUM + MICF	OZINC OPTIMIZED ZIN	с
	MicroMag Caps	ules   625mg   Optim	ized Magnesium	
		Size		
30ct.				~
		Sold out		
		SOLD OUT		
	MicroZinc C	apsules   20mg   Op	timized Zinc	
		Size		
Support				4.9 **** Google
	Categories	Account	Contact	Customer Reviews

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This combination is	your best bet at boosting both your Zinc and Magnesium intake at an optimally low dose.
	MAGTEIN MAGNESIUM L THREONATE + POLYGALA TENUIFOLIA
	Magtein Magnesium L-Threonate Capsules   667mg
90ct.	Size
	\$39.99
	ADD TO CART
	Polygala tenuifolia 20:1 Extract Capsules   100mg   Yuan Zhi
90ct.	Size
9001.	\$19.99
	ADD TO CART
Magtein quickly rec	ce smooth stimulation that helps promote focus while supporting stress management. ches the brain and helps promote overall cognition. This is a great combo for promoting nile promoting focus and managing healthy stress levels.
	MAGNESIUM GLYCINATE + LEMON BALM
	Magnesium Glycinate Capsules   800mg
180ct.	Size
	\$24.99
	ADD TO CART
Support	n Balm Tablets   500ma   10:1 Water Ethanol Extract   Melissa officinalis



#### \$16.99

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Lemon Balm helps promote bodily relaxation and sleep, making Magnesium Glycinate with Lemon Balm a fantastic stack for relaxation and promoting healthy sleep cycles.

Attention: 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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CuroWhite | A Stain-Free & Odorless Curcumin

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# About Nootropics Depot

Nootropics Depot is an online-based vendor of high quality nootropics, novel plant extracts, amino acids, fish oil, choline supplements, vitamins, and more based in Tempe Arizona. We were founded in 2013 when we realized the industry needed a trusted source for these products and someone to champion the change the supplement industry needs. We have our own in-house analytical testing lab with some of the best analytical chemists in the supplement industry. We are constantly striving to advance and improve the purity and analytical standards of not only the nootropics industry, but the larger supplement industry as a whole.

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