

Acti-Mag Plus

“Four reasons why magnesium glycerophosphate should be one of your top magnesium choices.”

Did you know that 57% of people purchase magnesium for fatigue, stress, anxiety, sleep, and muscle spasms. And yet, all magnesium is not the same. Over a dozen forms are available, and different forms have different ideal applications. One that you are probably not aware of, magnesium glycerophosphate, has properties or applications beyond all other forms of magnesium. The key concept for me is intracellular uptake – how much gets inside the cell. As you will see it's the glycerophosphate molecule that makes the difference.

Let's look at four reasons why magnesium glycerophosphate should be one of your top magnesium choices.

1. No bowel upset with therapeutic dosing.

There are at least 10 forms of magnesium that I know of. Glycerophosphate has the lowest amount of gastric distress, meaning the least amount of diarrhea.

2. Magnesium glycerophosphate thrives in human pH.

As you know the pH in the stomach should be 1.5-2.0.



As it passes into the small intestine, it becomes mildly alkaline from 7.0 -8.0. Let's look at this graph to see how minerals react in human pH concentrations. The vertical axis scale shows the percentage of magnesium the body utilizes based on pH. The horizontal axis shows pH levels ranging from 6 to 8 which represents the small intestine range. We see magnesium glycerophosphate, the purple line, loses about 3%. Magnesium malate, the brown line, loses 35%, and magnesium glycinate, the blue line loses 40%. This illustrates that magnesium glycerophosphate is 37% more bioavailable than magnesium

glycinate. That is a serious difference.

These percentages reflect the bioavailability of magnesium glycerophosphate as it passes through the small intestine into circulation. Recognize that magnesium is still intact as magnesium glycerophosphate. This is important because if magnesium glycerophosphate does not remain intact as a complete molecule, magnesium would react with all kinds of oppositely charged molecules, and limited amounts would find their way into the cell where we need it.

3. Magnesium glycerophosphate gets into the cell

easier than all other forms of magnesium.

Once Magnesium glycerophosphate is in the blood, we want to look at offloading magnesium into the cell. This process of intracellular uptake is the final phase of absorption. To measure intracellular uptake or absorption, the term dissociation comes into play. It's a log K value that measures how effective the separation from magnesium is from its carrier or chelator. The carrier could be glycinate or citrate. In our discussion, we are identifying glycerophosphate. The log K value ranges from 1-4. The glycerophosphate form dissociates with a log K value of 2.5. It dissociates more effectively than other forms of magnesium. In other words, when magnesium glycerophosphate gets to the cell, it can easily separate magnesium and deliver it inside the cell. This is not the case with other forms of magnesium, including glycinate or malate, or whatever form you want to discuss. They don't dissociate as well as the glycerophosphate molecule. The final piece to this puzzle is that the glycerophosphate molecule itself has major therapeutic value.

4. After magnesium is disassociated, the carrier glycerophosphate has its own benefits.

It supports what is called the glycerophosphate shuttle or pathway. The technical term is shuttle, but it's really just a pathway. The key is that this pathway is unique in the brain and muscle tissue, and one of its functions is to increase NAD. NAD is an energy molecule. Remember, one of the reasons so many people take magnesium is to increase energy. If you want to increase energy, you have to increase NAD. And since the glycerophosphate shuttle is so important to the brain and muscle, we can naturally increase NAD in the brain and muscle by supplementing the cofactors. Technically, the glycerophosphate shuttle moves electrons from cytosolic NADH to mitochondrial carriers in the oxidative phosphorylation pathway, the result being an increase or regeneration of NAD, which results in

an increase in cellular energy needed to repair, rebuild, and reproduce healthy cells.

Acti-Mag Plus, from Biotics Research, is a formula that contains magnesium glycerophosphate. Acti-Mag Plus comes in both a powder and now in tablets. Each scoop of the powder gives 400 mg of elemental magnesium. 6 tablets are the equivalent of one scoop.

Personally, I like the powder better because it tastes great, and I can add other nutrients to the drink as needed. As I've discussed, this formula is geared to increase energy pathways while reducing stress. So, daily doses of the phosphorylated forms of B1, B2, B6, as well as niacinamide, are present in the formula. Folate comes in the methylated MTHF form. Beet juice is present to support mitochondrial efficiency and nitric oxide production. Bamboo shoot extract supplies a bioavailable source of silicon, which assists intracellular calcium-magnesium balance. Taurine assists in drawing magnesium into the muscle cells, especially heart cells and activates GABA(A) receptors, which further promotes intra-cellular absorption of magnesium and supports calming parasympathetic activity. Magnesium glycerophosphate, as Acti-Mag Plus, provides therapeutic dosing without fear of diarrhea or cramping. It's effective in all phases of digestion and intracellular uptake. It's highly bioavailable and thrives in the pH of the small intestine. Its intra-cellular uptake is superior to other forms as it separates magnesium from its glycerophosphate carrier. But the real bonus is energy production in the cell by NAD regeneration.

Thanks for hanging with me in this mini-course on magnesium glycerophosphate, but I think you'll agree, it's been worth the effort to find something that has so many clinical applications. I look forward to being with you again next Tuesday.