

# Bio-Active Mineroplex



Highly Bioavailable Multi-Mineral Formula with Purified Shilajit | VA-142

## Key Features:

- Utilizes amino-acid-chelated minerals to ensure optimal absorption by the body.
- Formulated based on the affinity of each mineral to commonly used chelating agents.
- Shilajit is a synergistic enhancer in transporting different mineral substances to their cellular targets. Fulvic acid from Shilajit has strong antioxidant, anti-inflammatory, and immune-modulatory effects. It also supports mitochondrial energy production.
- Clinical studies have shown that Shilajit can help restore sperm count and motility in oligospermic patients.

## Indications:

- Post-chelation therapy support to replenish mineral loss and to relieve fatigue.
- Detoxification of glyphosate
- Electrolyte replenishment.

## Description:

Chelation therapy is one of the most effective procedures for patients suffering from heavy metal toxicities. Chelating agents such as EDTA, DMPS, and DMSA are utilized to bind to heavy metals to form chelates which can then be eliminated by the body.

However, one of the drawbacks of chelation therapy is that it could also bind to essential minerals in the body causing mineral depletion and body dysfunctions.

**Bio-Active Mineroplex** is a multi-mineral formula with enhanced bioavailability to provide post-chelation mineral support. By using only **amino-acid-chelated minerals**, it ensures better absorption and integration into the target tissues and quickly replenishes the body with electrolytes and other essential minerals lost due to chelation therapy.

## Shilajit (Purified)

Shilajit is a herbo-mineral resinous exudate derived from rocks in mountainous regions in Scandinavia, Central Asia, India, China, Tibet, Nepal, and Pakistan. In traditional Tibetan and Ayurvedic medicines, Shilajit is used to treat fractures, osteoarthritis, and spondylitis. It also helps in treating kidney stones, edema, adiposity and anorexia, and acts as an internal antiseptic.<sup>[1]</sup>

The bioactive constituents in Shilajit include humic substances (i.e. **humic acid**, **fulvic acid**, humin), dibenzo-alpha-pyrone (DBPs), DBP chromoproteins (DCPs), and essential minerals such as calcium, magnesium, and potassium.

Humic acid (Figure 1) and fulvic acid (Figure 2) provide a wide array of physiological benefits in our body, including

## Quantity: 112 Vegetarian Capsules

### Ingredients (per capsule):

Calcium (from calcium bisglycinate).....	30 mg
Chromium (from chromium nicotinate glycinate).....	100 mcg
Copper (from copper bisglycinate).....	500 mcg
Iodine (from <i>Laminaria spp.</i> ).....	75 mcg
Magnesium (from magnesium bisglycinate).....	25 mg
Manganese (from manganese bisglycinate).....	1 mg
Molybdenum (from molybdenum glycinate).....	250 mcg
Potassium (from potassium citrate).....	25 mg
Selenium (from selenium glycinate).....	50 mcg
Zinc (from zinc bisglycinate).....	10 mg
Boron (from boron glycinate).....	300 mcg
Silica (from silicon dioxide).....	1 mg
Shilajit (purified) (standardized to 20% fulvic acid).....	125 mg

### Non-medicinal Ingredients:

Silicon dioxide, L-leucine, hypromellose/pullulan (capsule)

### Suggested Use:

Adults - Take 2-4 capsules daily, or as directed by your health care practitioner.

detoxifying and adaptogenic effects, as well as promoting the bioavailability of minerals.

## Detoxification of Glyphosate

Glyphosate, also known as Roundup®, is a widely used herbicide that kills not only weeds, but also bacteria and fungi via its inhibitory action on the EPSP synthase - which is used by plants and microorganisms to produce aromatic amino acids (e.g. tryptophan, phenylalanine). Despite its claim of not being harmful to animals, numerous studies have demonstrated glyphosate's detrimental effects to humans:

- damaging tight junction of the intestinal tract,<sup>[2]</sup> causing intestinal hyperpermeability (a.k.a. "leaky gut")
- causing dysbiosis via its antibiotic activity<sup>[3]</sup>
- inhibiting the cytochrome p450 enzymes<sup>[3]</sup> compromising various detoxification pathways
- disrupting aromatase activity<sup>[4]</sup>, affecting endocrine and reproductive systems

Supplementation of humic acid from Shilajit has been shown in vivo to **significantly reduce the glyphosate concentration** in serum (53%), liver (28%), spleen (44%), lung (50%), GI tract (56%), heart (16%), and muscles (63%).<sup>[5]</sup> Humic acid has also demonstrated the ability to **restore the tight**



## junction injury induced by glyphosate.<sup>[2]</sup>

### Other Health Benefits of Shilajit

- **Enhanced Bioavailability of Essential Minerals:** Humic (Figure 1) and fulvic acids (Figure 2) both promote the movement of minerals, especially calcium, phosphorus, and magnesium, into target tissues, such as muscles and bones.<sup>[6],[7]</sup>
- **Anti-inflammatory, antioxidant, memory enhancer, neuroprotective,** and synergistic enhancer of drugs.<sup>[8]</sup>
- **Spermatogenic effects:** clinical studies have shown that Shilajit could help increase sperm count and motility via <sup>[9]</sup>:
  - » **reducing semen malondialdehyde** (MDA, an oxidative stress marker), and supporting mitochondrial functions.
  - » **Normalizing serum lipids** (i.e. cholesterol, LDL, VLDL, and triglycerides).<sup>[6]</sup>
- **Improving symptoms of chronic fatigue syndrome** via the modulation of HPA-axis & mitochondrial support.<sup>[10]</sup>
- **Inhibiting the pathogenesis of Alzheimer's Disease:** fulvic acid has been shown to inhibit the aggregation process of tau protein and prevent further formation of paired helical filaments.<sup>[11]</sup>
- **Chelation of Toxic Metals:** Studies have demonstrated that both humic and fulvic acids in Shilajit were able to chelate and neutralize the toxic effects of lead, cadmium, aluminum, and arsenic in vivo.<sup>[12]</sup>

### Problems with Crude, Unpurified Shilajit

The flip side of Shilajit's heavy metal chelating action is the risk of toxic metal contamination, especially the crude & unpurified form, because heavy metals may have been picked up by the organic acids and accumulate over time. Unpurified shilajit can also contain mycotoxins and other toxic polymeric quinones.<sup>[1]</sup>

The purification process of water extraction can eliminate almost all of the heavy metals and toxins in Shilajit; therefore, it is essential to look for "purified/extracted, standardized Shilajit" on the label when consuming a supplement containing Shilajit.

**Every batch of our purified Shilajit is screened for Full Metal Panel that includes heavy metals (i.e. Cd, Hg, Pb, As), as well as other minerals, to ensure safety and quality of the raw material.**

### Reference:

1. Agarwal, Suraj P., et al. "Shilajit: a Review." *Phytotherapy Research*, vol. 21, no. 5, 2007, pp. 401-405.
2. Gildea JJ, Roberts DA, Bush Z. "Protective effects of lignite extract supplement on intestinal barrier function in glyphosate-mediated tight junction injury. *Journal of Clinical Nutrition & Dietetics*, vol. 3 no. 1:1, Jan. 2017, pp.1-6.
3. Samsel A, Seneff S. "Glyphosate's suppression of cytochrome p450

**For Education Purpose Only:** The entire contents are not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always seek the advice of your physician or other qualified health provider with any questions you may have regarding a medical condition. Never disregard professional medical advice or delay in seeking it because of something you have read in this presentation. All statements in this article have not been evaluated by the Food and Drug Administration and are not intended to be used to diagnose, treat, or prevent any diseases.

- enzymes and amino acid biosynthesis by the gut microbiome: pathways to modern diseases." *Entropy*, vol.15, 2013. Pp.1416-1463.
4. Richard S, Moslemi S, Sipahutar H, Benachour N, Serailini GE. "Differential effects of glyphosate and Roundup on human placental cells and aromatase." *Environ Health Perspect*, vol. 113, no. 6, Jun 2005, pp. 716-720.
  5. Shehata AA, Schrod W, Schledorn P, Kruger M. "Distribution of glyphosate in chicken organs and its reduction by humic acid supplementation."
  6. Stohs, Sidney J. "Safety and Efficacy of Shilajit (Mumie, Moomiyo)." *Phytotherapy Research*, vol. 28, no. 4, Mar. 2013, pp. 475-479.
  7. Carrasco-Gallardo, Carlos, et al. "Shilajit: A Natural Phytocomplex with Potential Procognitive Activity." *International Journal of Alzheimers Disease*, vol. 2012, 2012, pp. 1-4.
  8. Sharma, Praveen, et al. "Shilajit: Evaluation of Its Effects on Blood Chemistry of Normal Human Subjects." *Ancient Science of Life*, vol. 23, no. 2, 2003, pp. 114-119.
  9. Biswas, Tuhin, et al. "Clinical Evaluation of Spermatogenic Activity of Processed Shilajit in Oligospermia." *Andrologia*, vol. 42, no. 1, 2010, pp. 48-56.
  10. Surapaneni DK, Adapa SR, Preeti K, Teja GR, Veeraragavan M, Krishnamurthy S. "Shilajit attenuates behavioral symptoms of chronic fatigue syndrome by modulating the hypothalamic-pituitary-adrenal axis and mitochondrial bioenergetics in rats. *J Ethnopharmacol.*, vol. 143, no. 1, Aug 2012, pp. 91-99.
  11. Comejo, Alberto, et al. "Fulvic acid inhibits aggregation and promotes disassembly of tau fibrils associated with Alzheimer's disease," *Journal of Alzheimer's Disease*, vol. 27, no. 1, 2011, pp. 143-153.
  12. Pant K, Singh B, Thakur N. "Shilajit: A Humic Matter Panacea for Cancer." *Int J Tox & Pharm Research*, vol. 4, no.2, 2012, pp. 17-25.

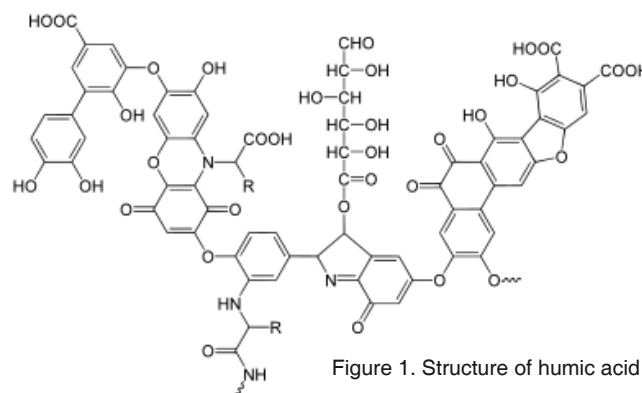


Figure 1. Structure of humic acid

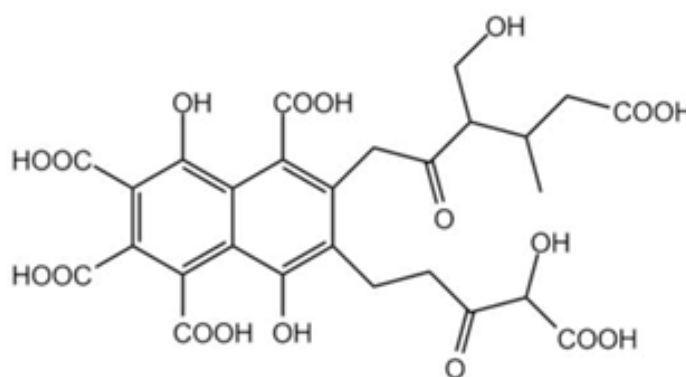


Figure 2. Structure of fulvic acid