

Heavy Metal Detox

Heavy metals are shown to be amongst the worst toxic chemicals. But research also shows the place of probiotics in detoxifying heavy metals. For your consideration: add Bioimmersion's probiotics. Here's why.

A Therapeutic Food Protocol for Heavy Metal Detox

- Original Synbiotic Formula- one teaspoon daily.
- Supernatant Synbiotic Formula- one capsule daily.

Food Science:

The food and water we consume are often contaminated with a range of chemicals and heavy metals, such as lead, cadmium, arsenic, chromium and mercury, that are associated with numerous diseases. Species such as *Lactobacillus* and *Bifidobacterium*, present in the mouth, gut, and vagina have the ability to bind and detoxify these metals.

Halttunen et al. (2007) showed that *Lactobacillus* and *Bifidobacterium* species can bind lead and cadmium to their cell surface, and hold on to them through defecation. Singh and Sharma (2010) showed that *L. acidophilus* was able to bind and remove arsenic from water. Robinson and Tuovinen (1984) demonstrated that *L. rhamnosus* in yoghurt reduced the bioaccumulation of mercury and arsenic in pregnant women and children. Shrivastava et al. (2003) showed that *lactobacilli* can transform chromium (CrVI) to its less toxic form (CrIII).

Having both the Supernatant Synbiotic Formula and the Original Synbiotic Formula gives you the option of taking a capsule or a powder. Both formulas provide excellent support for the chelation and detoxification of toxic heavy metals. They both contain multiple, but different, species of *Lactobacillus* and *Bifidobacterium*. If you want the maximum diversity of species take a capsule of Supernatant in the morning and a teaspoon of Original before bed (or vice versa).

Bibliography:

- Halttunen et al. (2007) Rapid removal of lead and cadmium from water by specific lactic acid bacteria. *Int. J. Food Microbiol*; 114:30-35.
- Robinson JB, Tuovinen OH. (1984) Mechanisms of microbial resistance and detoxification of mercury and organomercury compounds: physiological, biochemical, and genetic analyses. *Microbiol. Rev.*; 48:95-124.
- Singh et al. (2010). Removal of arsenic (III) from waste water using *Lactobacillus acidophilus*. *Bioremediat. J.*;14:92-97.
- Shrivastava et al. (2003) Various cells of the immune system and intestine differ in their capacity to reduce hexavalent chromium. *FEMS Immunol. Med. Microbiol*;38:65-70.
- Monchese et al. (2012) Bioremediation and Tolerance of Humans to Heavy Metals through Microbial Processes: a Potential Role for Probiotic? *AEM*;78:6397-6404