Claims for Detox Cocktail:

1. CLAIMS: Biotransformation

Biotransformation consists of phase I and II.

Phase I is the movement of electrons; requires antioxidants

Phase II is the addition of a nutrient.

Each nutrient in the High Tech Health Detox Cocktail has unique functions pertaining to the aforementioned phases.[1],[2],[3–7]

2. Vitamin C

Removes Toxins[1,5,8]

Antioxidant[9]

Rebuilds connective tissue[9],[10],[11]

Mitigates damage from free radicals[9],[10],[5]

Regenerates used antioxidants[9],[10]

Supports phase I detoxification[1]

3. Glutathione

Cellular defense; protects all tissues[3],[12]

Escorts toxicants out of the body; needed for optimal detoxificaiton[3],[12]

Combats accumulation of harmful xenobiotics[3],[13]

Protects from phase I free radicals[3], [12]

Acts as a conjugate in phase II detox and antioxidant in phase I[3],[14],

Regenerates other antioxidants[12]

Oral liposomal GSH supplementation causes significant increases in GSH plasma levels and lesser increase, but not significant in whole blood levels[15] in children with Autism Spectrum disorders.

Stores and transports nitric oxide within the cell[3]

Chelates heavy metals due to heavy metal's affinity for sulfur[8]

4. **Phosphatidylcholine**

Protects liver cells[7],[16]

Supports detoxification[7],[16]

Aids in detox of ethanol and carbon tetrachloride[7],[16]

Rebuilds phospholipids in cell membranes[7],[16]

Building block for healthy liver cells[7]

5. **Liposomes**

Liposomals are more likely to protect the nutrient payload for delivery to the cell, blood, tissue[15],[17],[18]

Bioavailable and biocompatible[17]

Liposomal encapsulation provides efficient delivery to the cell:

Protects nutrient from acid and digestive enzymes[17]

Enhanced cellular uptake[18]

Nutrients in non-liposomal supplements have barriers to absorption and cellular delivery:

Destroyed by stomach acid & digestive enzymes[17]

Limited uptake in the gut (NIH)

Limited uptake by target cell vs. liposomes target organs with discontinuous endothelium, such as the *liver*, spleen, and bone marrow[17]

Amphipathic: fat and water soluble[19]

Can pass the blood brain barrier[19], [18]

Liposomes with PC with SFA are most stable in the blood[17]

Neutral liposomes have the longest ½ life in the blood, positively charged have the shortest, and negatively charged have mid-rang ½ life.[17]

Alpha-Lipoic Acid

Binds (chelates) and removes, heavy metals[8]

Master antioxidant recycler[8]

Restores antioxidants GSH, vitamin C and E[20],[21]

Contains sulfur[21]; supports phase II detox pathways[8]

Antioxidant properties buffer the oxidative stress from phase I detox[21]

Crosses blood-brain barrier, cellular membranes[8]

HTH, R-LA in salt-stabilized[1] form is most bioavailable[22]

ALA increases intracellular GSH levels and CoQ10 levels[21]

High Tech Health Liposomes
Amphipathic microscopic spheres
Compatible with fat- and water-based tissues
Holds vitamin C, salt-stabilized R-LA, and GSH in protective center
100% PC-based liposomes
Optimal size requirements; ideal ratio of PC-to-nutrient payload

[1] An evaluation of the stability and plasma pharmacokinetics of R-Lipoic acid (RLA) and R-dihydrolipoic acid (R-DHLA) dosage forms in human plasma from healthy volunteers. # 43 in the plasma kinetics research may be a good study to have as it is a clinical trial with humans. I requested it from the authors; it's not online as far as I could find.

SUBSTANTIATION:

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