

# UltraClear® RENEW

## Nutritional Support for Metabolic Detoxification, Alkalinization & Heavy Metal Metabolism\*

Environmental pollutants (toxicants) are ubiquitous in our environment. The sheer volume to which humans are exposed to these toxicants and biological toxins on a daily basis can overburden the body's natural metabolic detoxification capacity, allowing some of these substances to accumulate in tissues. Diets lacking the necessary nutrients to support healthy metabolic detoxification can lead to a buildup of toxins in the body. The accumulation of toxins is associated with a number of health concerns, such as fatigue, waking up feeling unrefreshed, difficulty concentrating, mood disturbances, and gastrointestinal disturbances.\*<sup>1-4</sup>

In fact, in 2012, the Environmental Protection Agency Toxin Release Inventory (TRI)—an annual interpretation of data that highlights how and where toxic chemicals are released—reported disposal or release of 3.63 billion pounds of chemicals,<sup>5</sup> which can find their way into our air, soil, and food and water supplies. Knowledge of how the body clears toxins and how nutrition can play a role in supporting physiological mechanisms involved in removing unwanted chemicals provides healthcare professionals with opportunities and strategies for patient support.\*

Metabolic detoxification is a multi-phase process. Most toxins are fat-soluble and cannot be easily eliminated from the body. They first go through a transformation to a more water-soluble form before they can be excreted. The process of transforming and eliminating toxins from the body consists of 3 main phases\*:

- Phase I (functionalization)—Cytochrome P450 enzymes in the liver break down harmful substances, generating highly reactive molecules and free radicals
- Phase II (conjugation)—Large molecules are conjugated with newly modified substances, producing more water-soluble, less harmful substances
- Phase III (elimination phase)—Protein transporters export conjugated substances from the cell for eventual elimination. Toxins are mainly eliminated from the body via urine, feces, and sweat

Certain nutrients can support the 3 phases of metabolic detoxification and hence facilitate the removal of environmental toxins and undesirable compounds from the body.\*<sup>6-15</sup>



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The UltraClear RENEW powder is formulated to deliver advanced, specialized nutritional support for metabolic detoxification, with enhanced support for alkalinization and heavy metal metabolism. This novel formula is designed to complement a diet that is strategically structured to reduce the impact of processed foods and excess simple sugars by providing an array of macro- and micronutrients and phytonutrients that support all 3 phases of metabolic detoxification.\*

### Why UltraClear RENEW?

- Provided in a base of 14.5g OptiProtein™, which includes 12 g of proprietary, vegan pea/rice protein, and 2.5 grams of added amino acids\*
- Provides potassium citrate to promote alkalinization\*
- Features xanthohumol as XNT ProMatrix™; Brassinase™†, a broccoli ingredient standardized to sulforaphane glucosinolate and active myrosinase; SOD B Extramel® , an encapsulated dry melon juice concentrate that provides superoxide dismutase (SOD); prune skin extract, and ellagic acid to promote healthy cellular activities during the detoxification process\*
- Delivers L-glycine and magnesium sulfate to support Phase II detoxification activities, along with N-acetyl-L-cysteine, green tea catechins, beta-carotene, and vitamins A, C, and E to provide antioxidant protection\*
- Features isomalto-oligosaccharides (IMO), to support intestinal health.\*

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\* 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.

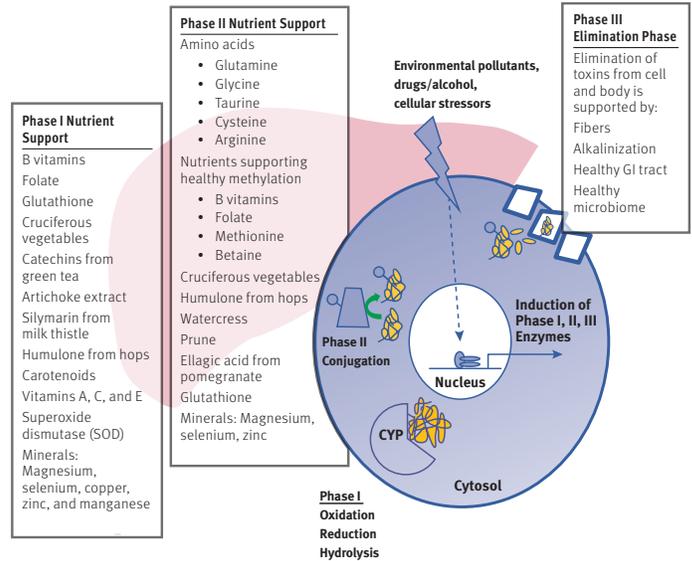
## Scientific Rationale

The impact of undesirable chemicals on the body can be exaggerated or mitigated by nutritional status.<sup>16</sup> It is important to promote the endogenous mechanisms of detoxification with strategic nutritional support. Several nutrients have been shown to support metabolic detoxification and protect against free radicals generated during the detoxification process (Figure 1).<sup>\*6-19</sup>

Phase I nutritional support for detoxification includes antioxidants and some key nutrients and metabolites [such as NADH, NADPH (niacin, nicotinamide), Flavin (riboflavin), and iron] while Phase II calls for significant specific nutritional support.<sup>17</sup> Phase I detoxification is not dependent on high nutritional demands and can remain active under fasting or poor nutritional status. In this case, Phase I detoxification can accelerate while Phase II activity may slow down due to nutritional insufficiencies which may lead to accumulation of harmful intermediate molecules produced by Phase I reactions.<sup>17</sup> Excess activity of Phase I, without coordinated Phase II activity such as in the case of fasting or poor nutrition, can lead to an overload of potentially harmful reactive toxic intermediates. Hence, proper nutritional support for Phase II detoxification is essential along with enhancement of the body's antioxidant capacity.\*

The inclusion of fiber in the diet is important as fiber can directly bind to toxicants and facilitate elimination.<sup>18</sup> Choosing organic food sources is desirable, as it has been shown to decrease levels of circulating pesticides.<sup>\*16</sup>

Several studies have demonstrated that nutritional support for the body's metabolic detoxification functions can lead to meaningful positive clinical outcomes. For example, an elimination diet and nutritional support for detoxification improved measures of Phase I and Phase II clearance.<sup>\*17,20</sup>



(Figure 1)

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