



## Carbo Grabbers

(with Chromium)

Stock #3070-7 (60 capsules)

Carbo Grabbers with Chromium is designed to help weight-management efforts by blocking the absorption of carbohydrates and promoting healthy blood sugar regulation.

The typical American diet, which is dominated by refined carbohydrates such as breads, cereals, pastas and breakfast bars, can wreak havoc on blood glucose (blood sugar) and insulin levels in the body and is often linked to the growing trend of obesity, diabetes and heart disease. In order to compensate for the rapid boost in glucose levels caused by the digestion of refined carbohydrates, the pancreas secretes large amounts of insulin, which transports glucose into cells to be burned for energy or stored as glycogen or fat. Over time, the continual elevation of insulin levels to combat spiking glucose levels can cause cells to become resistant to insulin—insulin resistance is the most common cause of Type 2 diabetes, as well as a contributing factor to cardiovascular disease and obesity.

Numerous studies have shown that a reduction in dietary carbohydrates improves weight-loss and retention of lean muscle mass, while also improving blood glucose and insulin sensitivity, lowering triglycerides, and increasing HDL ("good") cholesterol levels.<sup>1-8</sup>

Each capsule of Carbo Grabbers with Chromium contains:

**Chromium** is a trace mineral that is necessary for healthy insulin functioning and plays an essential role in increasing the body's sensitivity to insulin. In order to facilitate weight-loss, the body's cells need to become more receptive to insulin, which is critical for maintaining balanced blood sugar levels and stimulating thermogenesis—the burning of fat stores for energy. Without chromium, the action of insulin is inhibited, resulting in elevated blood sugar levels and decreased thermogenesis. Thus, chromium is regarded as a key component for effective weight-loss. Chromium supplementation has been shown to cause significant fat loss and retention of lean muscle compared to placebo in women following a modest diet and exercise program.<sup>6,7,9-13</sup>

**White kidney bean extract** (*Phaseolus vulgaris*) contains a natural amylase enzyme inhibitor. Amylase enzymes are responsible for breaking down carbohydrates. Conversely, amylase inhibitors block this digestive process, thereby altering the absorption of dietary carbohydrates and reducing carbohydrate-derived calories—more of the ingested carbohydrates are eliminated through the bowel instead of being absorbed from the small intestine into the bloodstream to be converted into glycogen or fat. In addition, amylase inhibitors slow the rapid absorption of carbohydrates, which helps normalize post-prandial (after-meal) plasma glucose and insulin function and may, in turn, help reduce fat accumulation. Amylase inhibitors have also been shown to reduce the glycemic index of carbohydrate foods—the glycemic index is a measurement of the plasma glucose response to the consumption of a carbohydrate food. Controlled clinical trials have shown that consumption of low glycemic index foods can reduce cholesterol, improve blood sugar control and insulin sensitivity, and reduce body weight.<sup>4,14-17</sup>

White kidney bean extract has been shown to produce significant reductions in both body weight and waist size, while maintaining lean body mass. One study found that those who consumed the most carbohydrates actually experienced the greatest reductions. Furthermore, white kidney bean extract has been shown to reduce post-prandial increases in plasma glucose, as well as significantly reduce the glycemic index of carbohydrates such as white bread. Researchers have concluded that white kidney bean extract appears to be a safe and effective supplement for weight loss and/or weight-maintenance programs.<sup>4,16-18</sup>

### References:

- <sup>1</sup>Challem, J. "The Prediabetic Epidemic." *Nutrition Science News*; March, 2001.
- <sup>2</sup>Clute, M. "Syndrome X: A Sign Of The Times." *Nutrition Science News*; July, 2001.
- <sup>3</sup>Wassef RPh, F. "Pharmacological Ramifications of Grains." *International Journal of Integrative Medicine*; 2001, 3(1): 6-11.
- <sup>4</sup>Celleno, L., et. al. "A Dietary supplement containing standardized Phaseolus vulgaris extract influences body composition of overweight men and women." *International Journal of Medical Sciences*; 2007, 4(1):45-52.
- <sup>5</sup>Ma, Y., et. al. "Association between carbohydrate intake and serum lipids." *Journal of the American College of Nutrition*; 2006, 25(2):155-163.
- <sup>6</sup>Felig, P. "Insulin is the mediator of feeding-related thermogenesis: insulin resistance and/or deficiency results in a thermogenic defect which contributes to the pathogenesis of obesity." *Clinical Physiology*; 1984. 4(4):267-273.
- <sup>7</sup>Porte, D. Jr, et. al. "Insulin signaling in the central nervous system: a critical role in metabolic homeostasis and disease from *C. elegans* to humans." *Diabetes*; 2005, 54(5):1264-1276.
- <sup>8</sup>Boling, C.L., et. al. "Carbohydrate-restricted diets for obesity and related diseases: an update." *Current Atherosclerosis Reports*; 2009, 11(6):462-469.

- <sup>9</sup>Murray ND, M. & Pizzorno ND, J. *Encyclopedia of Natural Medicine, 2nd Ed.* Rocklin, CA: Prima, 1998.
- <sup>10</sup>Kleefstra, N., et. al. [Chromium and insulin resistance]. *Nederlands Tijdschrift Geneeskunde*; 2004, 148(5):217-220.
- <sup>11</sup>Kelly, G.S. "Insulin resistance: lifestyle and nutritional interventions." *Alternative Medicine Review*; 2000, 5(2):109-132.
- <sup>12</sup>Volpe, S.L., et. al. "Effect of chromium supplementation and exercise on body composition, resting metabolic rate and selected biochemical parameters in moderately obese women following an exercise program." *Journal of the American College of Nutrition*; 2001, 20(4):293-306.
- <sup>13</sup>Crawford, V., et. al. "Effects of niacin-bound chromium supplementation on body composition in overweight African-American women." *Diabetes, Obesity & Metabolism*; 1999, 1(6):331-337.
- <sup>14</sup>Cichoke DC, A. *Enzymes & Enzyme Therapy*. Los Angeles, CA: Keats Publishing, 2000.
- <sup>15</sup>Jenkins, D.J., et. al. "Implications of altering the rate of carbohydrate absorption from the gastrointestinal tract." *Clinical and Investigative Medicine*; 1995, 18(4): 296-302.
- <sup>16</sup>Obiro, W.C., et. al. "The nutraceutical role of the Phaseolus vulgaris alpha-amylase inhibitor." *The British Journal of Nutrition*; 2008, 100(1):1-12.
- <sup>17</sup>Udani, J.K., et. al. "Lowering the glycemic index of white bread using a white bean extract." *Nutrition Journal*; 2009, 8:52.
- <sup>18</sup>Udani, J., Singh, B.B. "Blocking carbohydrate absorption and weight loss: a clinical trial using a proprietary fractionated white bean extract." *Alternative Therapies in Health and Medicine*; 2007, 13(4):32-37.