

## CARBO BLOCKER

Carbo Blocker is a dietary supplement containing phaseolus vulgaris (white kidney beans). Carbo Blocker is a starch blocker that interferes with digestion of carbohydrates and thereby promotes weight loss. Starch blockers are amylase inhibitors. Amylase is one of the main enzymes the body uses to digest starch. When amylase is blocked, ingested starch can pass through the gastrointestinal tract undigested, contributing no calories.

### Carbo Blocker:

- Is suitable for those with carbohydrate-rich diets<sup>1</sup>
- Helps reduce calorie absorption from dietary carbohydrates<sup>2</sup>
- Reduces weight and waist circumference<sup>3</sup>
- Has significant effect on reducing hypercholesterolemia<sup>4</sup>
- Helps reduce postprandial glucose and controls appetite<sup>5</sup>
- Helps lower the glycemic index in diabetes mellitus type 2<sup>6,7,8</sup>

**Dosage:** One capsule with or 30 minutes before carbohydrate-rich meals

**Precaution:** In pregnancy, breast feeding, diabetes or patients taking prescription and non-prescription medications.

**Packaging:** Bottles containing 60 capsules

#### Reference:

<sup>1</sup>J. Udani, et al., "Blocking carbohydrate absorption and weight loss: a clinical trial using a proprietary fractionated white bean extract", 2007.

<sup>2</sup>J. Udani, et al., "Blocking carbohydrate absorption and weight loss: a clinical trial using Phase 2 brand proprietary fractionated white bean extract", 2004.

<sup>3</sup>L. Celleno, et al., "A Dietary supplement containing standardized Phaseolus vulgaris extract influences body composition of overweight men and women", 2007.

<sup>4</sup>G. S. Birketvedt, et al., "Dietary supplementation with bean extract improves lipid profile in overweight and obese subjects", 2002.

<sup>5</sup>A. Spadafranca, et al., "Phaseolus vulgaris extract affects glycometabolic and appetite control in healthy human subjects", 2013.

<sup>6</sup>J. K. Udani, et al., "Lowering the glycemic index of white bread using a white bean extract", 2009.

<sup>7</sup>J. Brand-Miller, et al., "Low-glycemic index diets in the management of diabetes: a meta-analysis of randomized controlled trials", 2003.

<sup>8</sup>P. Laver, et al., "Effect of a purified amylase inhibitor on carbohydrate tolerance in normal subjects and patients with diabetes mellitus", 1986.



## Research Paper

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### A Dietary Supplement Containing Standardized Phaseolus Vulgaris Extract Influences Body Composition of Overweight Men and Women

**Aims:** The present research study examines a dietary supplement containing 445 mg of phaseolus vulgaris extract derived from the white kidney bean, previously shown to inhibit the activity of the digestive enzyme alpha amylase, on body composition of overweight human subjects.

**Methods:** A randomized, double-blinded, placebo-controlled study was conducted on 60 pre-selected, slightly overweight volunteers, whose weight had been essentially stable for at least six months. The volunteers were divided into two groups, homogeneous for age, gender and body weight. The test product containing phaseolus vulgaris extract and the placebo were taken one tablet per day for 30 consecutive days before a main meal rich in carbohydrates. Each subject's body weight, fat and non-fat mass, skin fold thickness and waist/hip/thigh circumferences were measured.

**Results:** After 30 days, subjects receiving phaseolus vulgaris extract with a carbohydrate-rich, 2000- to 2200-calorie diet had significantly ( $p < 0.001$ ) greater reduction of body weight, BMI, fat mass, adipose tissue thickness and waist/hip/thigh circumferences while maintaining lean body mass compared to subjects receiving placebo.

**Table.** Effect of phaseolus vulgaris-containing extract vs. control dietary supplement on the body composition of overweight subjects:

Measured Parameter	Test (n=30)	Control (n=29)	p-value
Body weight (kg)	-2.93 $\pm$ 1.16	-0.35 $\pm$ 0.38	<0.001
Fat mass (kg)	-2.4 $\pm$ 0.67	-0.16 $\pm$ 0.33	<0.001
Lean body mass (kg)	-0.53 $\pm$ 0.45	-0.19 $\pm$ 0.17	<0.05
Waist circumference (cm)	- 2.93 $\pm$ 2.13	-0.47 $\pm$ 0.39	<0.001
Hip circumference (cm)	-1.48 $\pm$ 0.66	-0.10 $\pm$ 0.47	<0.001
Thigh (right) circumference (cm)	-0.95 $\pm$ 0.80	-0.26 $\pm$ 0.46	<0.001
Adipose tissue thickness (via skin echogram) (mm)	-4.2 $\pm$ 6.51	-0.66 $\pm$ 2.81	<0.001

Ave  $\pm$  SEM=(Standard Error of Mean) is shown. Among various parameters, a comparison of the individual changes within groups (30 day values – baseline) was made between the test and control groups. The negative values indicate a loss from baseline within the group. The significance of the 30-day changes between the test and control groups were compared via the unpaired student's t test and listed in the last column.

#### Conclusion:

The results indicate that phaseolus vulgaris extract produces significant decrements in body weight and suggest decrements in fat mass in the face of maintained lean body mass.

