

Short Communication: Metabolic Syndrome and Adaptogenic Nutritional Supplement “AdMax”

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Abstract: Metabolic syndrome manifestations include chronic fatigue, insulin resistance, elevated levels of glucose, lipids and cholesterol in the blood, and overweight. The main targets of nutritional supplement “AdMax” are the activation of energy metabolism and stress counteraction. In addition, the “AdMax” constituents decrease the concentration of blood glucose, enhance glucose utilization by cells, decrease the activity of triglyceride lipase and lower blood cholesterol levels. Comparison of metabolic syndrome manifestations to the activities of “AdMax” constituents argues that “AdMax” can be used as a preventive and treatment remedy for metabolic syndrome.

Keywords: Metabolic syndrome, Adaptogenic plants, Nutritional supplement “AdMax”, “AdMax” properties, Prevention of Metabolic syndrome.

Metabolic syndrome is manifested by a number of deviations from the norm including chronic fatigue, insulin resistance, increased levels of glucose, lipids and cholesterol in the blood, and overweight. Prevalence of metabolic syndrome in the US adult population is close to 34% and increases with age [1]. Metabolic syndrome is a strong risk factor for coronary artery disease, stroke, and type 2 diabetes.

Biochemical mechanisms of metabolic syndrome are only partly elucidated. Insulin is a mediator that regulates glucose entry into cells from the blood. Insulin resistance prevents the glucose uptake evoking energy insufficiency in body cells, especially in brain neurons. As a result, the feeling of physical and mental fatigue arises. Body compensates the energy insufficiency by the activation of lipid metabolism, which results in increased concentrations of lipids and cholesterol in the blood. Overweight is also a consequence of energy deficit and alteration of lipid metabolism. Because glucose utilization by body cells is limited, its levels in the blood become elevated. The fact that multiple manifestations of metabolic syndrome are commonly observed in the same individual suggests that metabolic disturbances that underlie the syndrome are interconnected. One of the important factors that contribute to the development of metabolic syndrome is chronic stress [2, 3].

Nutritional supplement “AdMax” is a proprietary extract blend of adaptogenic plants: *Leuzea carthamoides*, *Rhodiola rosea*, *Eleutherococcus senticosus* and *Schizandra chinensis* [4]. The main targets of “AdMax” constituents are the activation of

energy metabolism [5-10] and stress counteraction [4]. In addition, “AdMax” constituents decrease concentration of blood glucose [11-13], enhance glucose utilization by cells [14], decrease activity of triglyceride lipase [15], and lower blood cholesterol levels [16].

Comparison of metabolic syndrome manifestations to the “AdMax” properties described above argues that “AdMax” can be used as a preventive and treatment remedy for metabolic syndrome.

Adaptogenic nutritional supplement “AdMax” was developed by Genext Research, Inc., FL 33765, USA and is manufactured by Nulab, Inc., FL 33765 (www.nulabinc.com).

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