

Aspalathus GRT®



Introduction:

A dry extract obtained from the unfermented leaves of Green Rooibos (*Aspalathus linearis*) standardized by HPLC at 14% in aspalatine.

The main constituents of the Phyto complex are flavonoids (aspalatine, notofagin, aspalalinin, orientin, isorientine, rutin, vitexin, luteolin, quercetin).

Aspalathus GRT® can improve **Metabolic syndrome and type II diabetes** by reducing the absorption of sugars and post-prandial blood sugar and increasing the insulin sensitivity. It also protects pancreatic β cells from oxidative stress and slows down their apoptosis, inhibits glycogenolysis and gluconeogenesis and normalizes plasma lipids.

It has effect on **Oxidative stress and silent inflammation** by scavenging of peroxy radicals and inhibition of lipid peroxidation, induction of the biosynthesis of enzymes of the endogenous antioxidant defense system (SOD, CAT), increasing in ratio GSH/GSSG. Besides it inhibits NF- κ B and AP-1 and regulates the photogenic

cytokine cascade (TNF α , IL-6) and the adhesion of endothelial molecules and neutrophil migration.

Aspalathus GRT® **regulates lipids and body weight** by reducing the deposition of adipose tissue and the absorption of carbohydrates, stimulating lipolysis and β -oxidation. It also increases energy expenditure and optimizes mitochondrial function as well as it decreases food intake.

Another effect is **hepatoprotection** by stimulating AMPK, it counteracts the cellular processes that induce non-alcoholic fatty liver disease (NAFLD), protects hepatocytes from oxidative stress by increasing GSH levels and counteracting the hepatic effects of reduced insulin resistance.

Finally, it has **cardioprotective activity**: aspalatine protects myocytes from damage induced by hyperglycemia and doxorubicin.

Effects:

- It helps in the improvement of metabolic syndrome and type II diabetes.
- Weight management
- Dyslipidemia and cardioprotection
- Hepatic steatosis and oxidative stress
- Related to immunomodulation processes

Suggested Dosage: 60-250 mg/day.

Applications:

- capsules, tablets, soft gels, soluble granules and powders, solutions.

Bibliography:

Han Z, Achilonu MC, Kendrekar PS, Joubert E, Ferreira D, Bonnet SL, van der Westhuizen JH. Concise and scalable synthesis of aspalathin, a powerful plasma

sugar-lowering natural product. *J Nat Prod.* 2014 Mar 28;77(3):583-8. doi: 10.1021/np4008443. Epub 2013 Dec 19. PMID: 24354397.

Kamakura R, Son MJ, de Beer D, Joubert E, Miura Y, Yagasaki K. Antidiabetic effect of green rooibos (*Aspalathus linearis*) extract in cultured cells and type 2 diabetic model KK-A(y) mice. *Cytotechnology.* 2015 Aug;67(4):699-710. doi: 10.1007/s10616-014-9816-y. Epub 2014 Nov 20. PMID: 25410530; PMCID: PMC4474990.

Johnson R, Beer D, Dlodla PV, Ferreira D, Muller CJF, Joubert E. Aspalathin from Rooibos (*Aspalathus linearis*): A Bioactive C-glucosyl Dihydrochalcone with Potential to Target the Metabolic Syndrome. *Planta Med.* 2018 Jul;84(9-10):568-583. doi: 10.1055/s-0044-100622. Epub 2018 Jan 31. PMID: 29388183.

van der Merwe JD, de Beer D, Joubert E, Gelderblom WC. Short-Term and Sub-Chronic Dietary Exposure to Aspalathin-Enriched Green Rooibos (*Aspalathus linearis*) Extract Affects Rat Liver Function and Antioxidant Status. *Molecules.* 2015 Dec 18;20(12):22674-90. doi: 10.3390/molecules201219868. Erratum in: *Molecules.* 2016;21(7). pii: E907. doi: 10.3390/molecules21070907. PMID: 26694346; PMCID: PMC6332203.