

Afriplex GRT



A novel herbal product for metabolic syndrome - GRT helps to modulate glucose intolerance and dyslipidaemia, clinical features of the metabolic syndrome and major risk factors for developing type 2 diabetes.



Market opportunities

Green Rooibos, *Aspalathus Linearis*, a plant endemic to South Africa, offers an array of health benefits, amongst them the potential to lower blood glucose and cholesterol, risk factors associated with development of serious metabolic disease. This is due to the major flavonoid found abundantly in green rooibos, an active dihydrochalcone C-glucoside called Aspalathin. Afriplex, together with a team of biochemists and pharmacists, developed a standardised, water-soluble powder extract from the green rooibos leaves.

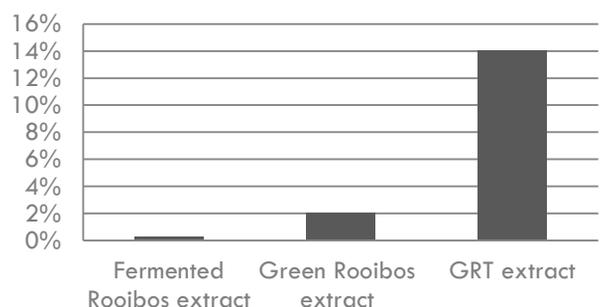
Formulation Application									Market Application			
Syrup	Throat spray	Throat lollipop	Effervescent	Capsule	Tablet	Tincture drops	Lozenges	Single dose	Health supplement	Pharmaceutical	Cosmetic	Veterinary
				X	X	X			X	X	X	X

Premium Characteristics

Extracts containing high levels of **Aspalathin** have been shown to **enhance glucose uptake, alleviate insulin resistance and regulate lipid imbalance**



Aspalathin content comparison



Scientific results

Insulin resistance is a main contributor to some metabolic diseases such as obesity, type-2 diabetes and cardiovascular disease. Proof of the aforementioned beneficial effects of the green rooibos extract is based on both local and international studies. **After extensive laboratory testing, it was confirmed that the genes and proteins that regulate glucose and lipid metabolic pathways, were positively effected by aspalathin-enriched rooibos extracts.** Aspalathin has also been shown to protect vulnerable cells, such as insulin producing pancreatic β -cells, against increased oxidative stress and inflammation associated with an unhealthy diet, insulin resistance and obesity.



Ongoing research

Further studies on the beneficial effects of the green rooibos extract will focus on the effects of a pharmaceutical grade, GMP-produced, aspalathin-rich and unfermented rooibos extract in non-human primates and humans. Apart from the metabolic effects, focus will fall on key effectors in the development of cardiovascular disease (CVD), along with their association with obesity. Obesity-associated inflammation and oxidative stress are known to influence both endothelial functionality as well as the composition and oxidative state of lipoproteins. Recent evidence points to the fact that besides absolute cholesterol levels and relative proportions of HDL and LDL, the oxidative state of LDL, its antioxidant content and the enzymatic antioxidant activities associated with HDL, play a major role in CVD progression. These parameters will be assessed in vervet monkeys and humans with a high risk for CVD.

Non-human primates

In preparation for human studies, proof of efficacy and safety studies were conducted in normal (n=4) and metabolically compromised vervet monkeys (n=8). These monkeys were treated with Afriplex GRT extract (90 mg/kg 3 times daily) or placebo (n=4/group) for 28 days, followed by a 28 day washout period without treatment. Preliminary findings show that Afriplex GRT improves glucose tolerance in metabolically-compromised monkeys. Further testing is underway to assess the effects of Afriplex GRT on metabolic status, markers of oxidative and nitrosative damage to biomolecules and plasma lipids, inflammation and oxidative pathways.

Human study

A randomised, double-blind, placebo-controlled study design will be used. Obese men and women will be randomised into control (placebo; n=45) and experimental (extract; n=45) groups. Participants in the experimental group will receive the Afriplex GRT extract, whereas the participants in the control group will receive a placebo without Afriplex GRT. Participants will undergo physiological testing prior to and at the completion of the 16 week intervention. Physiological testing will include measures of body composition, glucose and lipid metabolism, blood pressure, liver enzymes, haematological profiles and adipokines. In addition, the focus will fall on markers of oxidative/nitrosative stress related to the development of CVD

Commercial name	Afriplex GRT
Possible indication	Natural antioxidant - Herbal product for Metabolic Syndrome - GRT helps to modulate glucose intolerance and dyslipidaemia, clinical features of the metabolic syndrome and major risk factors for developing type 2 diabetes.
Botanical name	<i>Aspalathus linearis</i> (Burm.f.) R.Dahlgren
Common name	Unfermented Green Rooibos
Type of extract	Spray dried Hydro-alcoholic extract
Appearance	A reddish green powder
Assay	Aspalathin 14% – (Batch specific determination)
Chemical composition	The compounds identified are mainly flavonoid glycosides such as orientin, isoorientin, quercetin, dihydrochalcone, C-glucoside, Aspalathin and nothofagin.
Solubility	Sparingly soluble in water between 15°C and 25°C
Recommended Dosage	50 - 200 mg per day
Safety and Efficacy	On the basis of available safety data, the preparation is safe in the dosage administered in clinical and post-marketing trials
API Masterfile	Data relating to ZACTD 3.2.S available on request
Dosage form	Syrup, Drops, Capsule, Tablet, Effervescent
Market application	Pharmaceutical, Veterinary, Cosmetic

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Afriplex is a South African company specialising in the development and manufacturing of complementary, veterinary, cosmetic and nutraceutical products.

We are known for our ability to offer all-inclusive product solutions by adding value to a functional ingredient and taking it from source to shelf.

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