



The Significance of Sutherlandia - PRO

Sutherlandia has application in the treatment of all conditions that are associated with impaired immune function, stress or general debility of the body. It strengthens the body's natural immune response, supports the healing system and accelerates the recovery process.

The full botanical name of Sutherlandia is *Sutherlandia frutescens* subspecies *microphylla* elite SU1™ chemotype. It has been commonly referred to as: Kankerbossie (Afrikaans) and Cancer Bush (English).

Another traditional name is 'Phetola' which means 'it changes' - meaning that the plant changes the course of many illnesses towards a favourable outcome. (This is similar to the European concept of an alterative.)

Sutherlandia enjoys a long history as a highly valued component of African Traditional Medicine for:

- Colds and flu
- Asthma and bronchitis
- Mild to moderate hypertension
- Digestive disorders, peptic ulcers, gastritis and reflux oesophagitis
- Hot flushes and irritability in menopause
- Type 2 diabetes
- Viral hepatitis
- General immune system support and longevity

Sutherlandia frutescens is regarded as the most significant and multi-purpose of the medicinal plants in Southern Africa. It powerfully assists the body to mobilize its own resources (the immune system) to cope with physical and mental stresses, and is therefore, correctly speaking, an adaptogen (in the class of herbs such as Astragalus, Ginseng, and Ashwagandha) and has even been referred to as 'African Ginseng'.

In fact, Sutherlandia is considered the African adaptogen par excellence. It is an herb with a profound effect on the body-mind-energy system, maintaining and optimizing physical, mental and emotional wellness, and it is as if Nature has combined, in a single plant, the immune stimulating benefits of Echinacea, the adaptogenic effects of Panax Ginseng and the energy of Ashwagandha.

The Sutherlandia PRO formulation is a product that has been carefully designed to strengthen and support the immune system thereby enhancing the body's ability to ward off illness and mitigate the effects of stress, be it mental or physiological.

Each capsule of Sutherlandia – PRO formulation (including co-factors) contains:

- **Sutherlandia frutescens* *microphylla* (elite SU1™ chemotype)
- *L-Arginine (free base)
- *Vitamin B6 (from Pyridoxine hydrochloride)
- *Zinc (from Zinc L-monomethionine)
- *Selenium (from Se-methylseleno-L-cysteine)



Chemistry and Pharmacology

Terra Treatment sells three orally taken products that contain *Sutherlandia frutescens*. They are our pure *Sutherlandia frutescens* tablets 300 mg, the vegi-capsuled *Sutherlandia* 400 mg, also known as African Ginseng™, and our new product, the Adaptogenic Immuno-modulator *Sutherlandia* - PRO formulation, a combination of products whose key ingredient is *Sutherlandia frutescens*.

The Sutherlandia-PRO Formulation contains:

**Sutherlandia frutescens* SU1 Chemotype

***L-Arginine**

The second ingredient, L-Arginine, is an amino acid present in the proteins of all life forms. It is classified as a semi-essential, or conditionally essential, amino acid. This means that under normal circumstances the body can synthesize sufficient L-Arginine to meet physiological demands. However, there are conditions, such as prolonged exposure to a highly stressful environment (whether physiological or mental), where the body cannot keep up. These put an increased demand on the body for the synthesis of L-Arginine. Specifically, Arginine is important in the formation of polyamines, molecules that newly formed B cells and T cells require during their rapid growth and proliferation in the early stages of an infection. Arginine also promotes wound healing and regeneration of the liver. The form of Arginine used in this formulation is L-Arginine (L is the natural form), free form and freebase for high bio-availability and rapid absorption into the bloodstream.

***Vitamin B6**

The third ingredient, Vitamin B6, is pyridoxine hydrochloride, which is both stable and bio available. Pyridoxine or Vitamin B6 is a water-soluble B-complex vitamin necessary for the proper function of over 70 different enzymes that participate in amino acid metabolism. Pyridoxine also aids in maintaining sodium and potassium balance. It is required by the nervous system, and is needed for normal brain function and for the synthesis of the nucleic acids RNA and DNA, which contain the genetic instructions for the reproduction of all cells and for normal cellular growth. It activates many enzymes and aids in the absorption of vitamin B12, supports immune system function, and is necessary for antibody production.

***Selenium**

The fourth ingredient, Selenium, is in the form: Se-methylseleno-L-cysteine (SeSMC, patent pending). SeSMC or Methylselenocysteine is a seleno-amino-acid that is synthesized by vegetables such as garlic and broccoli. It is a newly developed, bio-available and safe form of the essential trace mineral nutrient, Selenium. Selenium in the form of Selenocysteine is an essential component of antioxidant enzymes such as glutathione peroxidase and is also found in several proteins in the body.

The immunological role of Selenium is well documented. Additionally, adequate Selenium nutrition offers a line of defence against viral infections and chronic diseases as well. Methylselenocysteine, in light of its high bioavailability and natural occurrence in food sources, is the most efficacious Selenium supplement available.



*Zinc

The fifth ingredient is Zinc. This is in the form of Zinc L-monomethionine (U.S. Patent Nos. 4,764,633 and 5,278,329). This is the most bio available form of Zinc currently available. In a high proportion of studies, including those involving the entire range of essential micronutrients, both vitamins and minerals, Zinc continues to show the most specific and, in many ways, one of the strongest effects on the functioning of the immune system of any micronutrient. Zinc has a unique role in thymus dependent T-cell mediated immune response.

Zinc's immunomodulatory effects may be accounted for by its membrane-stabilization effect, which affects signalling processes involved, in cell-mediated immunity. Another role of zinc is in the maintenance of the integrity of biological membranes resulting in their protection against oxidative injury. Zinc has immunomodulatory activity and antioxidant activity. Zinc also has putative, antiviral, fertility-enhancing and retinoprotective properties.

Clinical and Supplement Uses:

Preliminary scientific research, published peer-reviewed scientific research, and clinical experience suggests that the key phytochemicals in select chemotypes of Sutherlandia varieties are:

- Immunomodulatory
- Anti-inflammatory
- Vaso-dilatory
- Analgesic
- Anti-viral, anti-fungal and anti-bacterial
- Anti-cancer
- Inhibitors of Tumor Necrosis Factor (TNF) - excess production of TNF known to drive the wasting process in Cancer and TB patients.

Dosage

2 Capsules per day. Sutherlandia-PRO can be used in conjunction with both Shilajit and Sceletium-PRO, together they form our Health Trilogy.

Side Effects

In keeping with World Health Organization guidelines for the assessment of herbal medicines, Sutherlandia is generally regarded as safe on the basis of its long history of safe use in South Africa.

It is one of the few medicinal plants on the world market that has been formally studied for safety, in this case, in Vervet monkeys. The Medical Research Council of South Africa tested elite chemotype Sutherlandia dried leaf powder for safety in 2001. The study was part of a Medical Research Council Indigenous Knowledge Systems (IKS) process to establish a "clinical platform" to assess the safety and efficacy of promising South African indigenous medicinal plants.

No toxicity was apparent in any variable studied by the MRC.



Contraindications

None documented at this time. It is not recommended for pregnant and breastfeeding women, since the safety study did not include these situations.

Raw Materials: SU1 chemotype

In the interests of consistent product quality, and to prevent environmental damage, we use only certified organically cultivated plant material that has been selected from natural strains of plants with a typical and reproducible phytochemical profile.

An elite chemotype (called SU1™) of *Sutherlandia frutescens* (based specifically on the *Microphylla* subspecies) has been developed, where specific phytochemical compounds (with particular reference to the triterpenoid glucoside, SU1), and including amino acids, are assayed and quantified and it is the seeds of this chemotype that are re-sown for our *Sutherlandia* products.

This chemotype has been developed to ensure that batches of *Sutherlandia* are of reproducible quality, and so that research, such as safety studies, can be reliably applied to the actual product being sold.

Sutherlandia frutescens subspecies *microphylla* elite (SU1™) chemotype is also the form of *Sutherlandia* that was used in the Medical Research Council Safety Study.

Summary

As you can see from the summaries of each of the 5 components that make up the *Sutherlandia* PRO- formulation, the components chosen all have similar, related, complementary and synergistic effects in the body-mind-emotional-energy system.

We believe that this formulation will be significantly more effective than the sum of its parts and will be a premium and highly efficacious supplement to use as a general adaptogen and immune strengthener in healthy people and as a very useful, safe and effective nutritional remedy for those challenged by diseases such as Cancer, TB and Chronic Fatigue Syndrome.

The effects of *Sutherlandia* are particularly profound and subjectively noticeable, and with the support of the other 4 nutritional co-factors, this product will also be a highly effective Quality of Life and overall Wellness supplement.