# **TIMMUNE**

#### **Product Highlights**

- Provide Total Immunity Naturally
- T Immune is enriched with High Quality USA Patented Ingredients which stimulates immune system.
- Improves energy levels and mitochondrial health
- Provides antimicrobial activity

#### **Description**

T Immune is an IMMUNITY BOOSTER with Multi Vitamin, Multi Mineral, Anti microbial, Anti oxidant, Immuno boost and Respiratory Support blends.

#### **Key Ingredients:**

- Multi Vitamin Vitamin C, D E, B1, B2, B3, B5, B6, B12, and Folic Acid
- Multi Mineral -Selenium, Zinc, Copper and Iodine
- Anti microbial -Olea europaea, Echinacea purpurea, Azadirachta indica, Neem bitters, Ocimum sanctum
- Anti Oxidents-Curcumin C3 Complex, Saberry, Citrus aurantifolia
- Immuno booster-Shagandha, Tinofolin, Bioperine
- Respiratory Support blend-Adhatoda vasica, Sambucus nigra, Glycyrrhiza glabra, Glycyrrhiza glabra

T Immune is enriched with High Quality USA Patented Ingredients...

Details of each ingredient listed below for discussion...

### **Shagandha**<sup>™</sup>□

- 4 Anti-tumour, anti-stress, immunomodulatory, hematopoietic and antioxidant properties
- Has an anxiolytic effect and improves energy levels and mitochondrial health.

#### Tinofolin<sup>™</sup>□

- Possesses immune-stimulating properties.
- T. cordifolia and its constituent α-D-glucan stimulate NK cells, B cells, and T cells with simultaneous production of various immune-stimulatory cytokines.

#### **Bioperine**®

- A potent bioavailability enhancer for various types of nutrients including amino acids, minerals and phytoextracts.
- ☐ It inhibits P-glycoprotein, reduces the activity of glucuronyl transferase enzyme
  ☐

#### **Saberry**® $\square$

- Potent antioxidant
- **♣** Saberry®□ is a leader among water-soluble phytonutrients in terms of broad-spectrum antioxidant activity
- In addition, the berry contains mucic acid lactone, an antioxidant compound that is very similar to ascorbic acid. So, the gallic acid esters endow the berry its massive antioxidant potential.

#### **Curcumin C3 Complex®**□

- $\blacksquare$  Curcumin inhibited the production of pro-inflammatory cytokines such as IL-1β and IL-8, suppressed inducible iNOS and NO production, and modulated steroid activity.
- Its effects on steroid activity may have been the result of inhibition of NF-κB through blocking IKK activity
- ♣ Curcumin has also been reported to restore histone deacetylase-2 (HDAC-2) enzyme activity

#### Citrus aurantifolia juice extract (10:1)

- Rich source of Vitamin C
- Crucial for repair and upkeep of the connective tissue matrix of the respiratory tree
- ₽ Proliferation of tonsillar mononuclear cells when exposed to suitable mitogens

### Echinacea purpurea

- ♣ Stimulation of the immune system
- **♣** Extract showed the increase in percentage of lymphoproliferation

# Ocimum sanctum leaf extract (3% Ursolic Acid- Holy Basil (Ocimum sanctum), commonly known as Tulsi

- **♣** Ocimum sanctum shows potent antimicrobial activity
- ♣ sanctum also acts against Pseudomonas aeruginosa, Staphylococci sp., Salmonella typhi,
  Klebsiella pneumonia, Proteus, Candida albicans
- **≰** sanctum acts as excellent antimicrobial agent against many microbes
- **♣** potent antioxidant activities -(cyclooxygenase inhibitory.
- # mast cell stabilising potential, suppression of IgE and inhibition of release of inflammatory mediators

# Azadirachta indica leaf extract- Neem Leaf

- Azadirachta indica leaves possess good anti bacterial activity, confirming the great potential of bioactive compounds
- Neem extract also helps improve symptomatology in psoriasis, further corroborating the antimicrobial activity of the phytoextract.
- **4** Hepatoprotective action,

# Olea europaea leaf extract (12.5% Oleuropein)

- Oleuropein and its metabolite, hydroxytyrosol, have powerful antioxidant activity
- ♣ Oleuropein has been shown to have strong antimicrobial activity against both Gram negative and Gram positive bacteria as well as mycoplasma.
- To inhibit the development and production of enterotoxin B by Staphylococcus aureus, the development of Salmonella enteritidis and the germination and consequent development of spores of Bacillus cereus

#### Glycyrrhiza glabra root extract (20% Glycyrrhizinic Acid)

- GRZ (Glycyrrhizinic Acid) significantly reduces OVA-induced airway constriction, airway hyper-reactivity to methacholine and decreases lung inflammation including marked eosinophil infiltration in the mouse model of asthma. In addition, it reduces OVA specific IgE levels in serum and Th2 cytokines, IL-4 and IL-5 in BAL fluid.
- ♣ Possess excellent anti microbial activity.

#### Sambucus nigra berry extract (5% Flavonoids)

- To reduce symptoms caused by influenza virus substantially more effectively than upper respiratory symptoms caused by the common cold.
- Elderberry's antiviral activity may be due to its high concentration of flavonoids, specifically the anthocyanins cyanidin 3-glucoside and cyanidin 3-sambubioside, which are anti-inflammatory agents

# Adhatoda vasica leaf extract (1% Vasicine)

- 4 antioxidant, anti-inflammatory, and bronchodilatory Activities
- A derivative of vasicine, bromhexine has been shown to possess mucus liquefying/expectorant activity. Ambroxol, a widely used secretolytic agent derived from vasicine, was shown to inhibit IgE-dependent mediator secretion from human MCs and basophils—the principal effectors of allergic inflammation.

# **L-Selenomethionine as Selenium SeLECT®□ Pure (40%)**

- Low plasma selenium levels are observed in patients with bacterial and viral infections
- ♣ Adequate levels of Se are important for initiating immunity,
- But additional functions such as protein folding and calcium flux may also be impaired in immune cells under Se deficient conditions.
- ♣ Immune cells express many, but not all, members of the selenoprotein family. Within cells of the immune system, selenoproteins within immune cells perform antioxidant functions, carry out protein folding, and promote certain cell signalling events during activation.