

## NUTREASE POWDER-An Antioxidant Therapy for Prevention & Control of Lifestyle Disorders

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### ABSTRACT

"Natural antioxidant process in Nutrease powder compensate for one another, covering up momentary deficiencies by their overlap." The science of antioxidants can be quite complex, and this often leads to confusion among people on which types should be taking. The answer is—Nutrease Powder, A blend of natural Antioxidant Phytonutrients to prevent & cure diseases. Antioxidant phytochemicals found in Nutrease powder plays an important role in the prevention and treatment of chronic diseases caused by oxidative stress. They often possess strong antioxidant and free radical scavenging abilities, which are also the basis of other bioactivities and health benefits. Phytonutrients in Nutrease powder play a positive role by maintaining and modulating immune function to prevent specific diseases. Being natural products, they hold a great promise in clinical therapy. Phytonutrients are the plant nutrients with specific biological activities that support human health. Some of the important bioactive phytonutrients include polyphenols, terpenoids, resveratrol, flavonoids, isoflavonoids, carotenoids, limonoids, glucosinolates, phytoestrogens, phytosterols, anthocyanins, and probiotics. They play specific pharmacological effects in human health. This article reviews the current available scientific literature regarding the effect of Nutrease powder as an effective supplementation to prevent & cure diseases.

### INTRODUCTION

#### *What Are Antioxidants?*

Antioxidants are a class of molecules that are capable of inhibiting the oxidation of another molecule. our body naturally circulates various nutrients in our body due to their antioxidant properties. It also manufactures antioxidant enzymes in order to control free radical chain reactions. Some antioxidants are produced by our body, but some are not. In addition, our body's natural antioxidant production can decline with age. Antioxidants play a significant role in our health, as they can control age by fighting free radicals.<sup>1</sup>

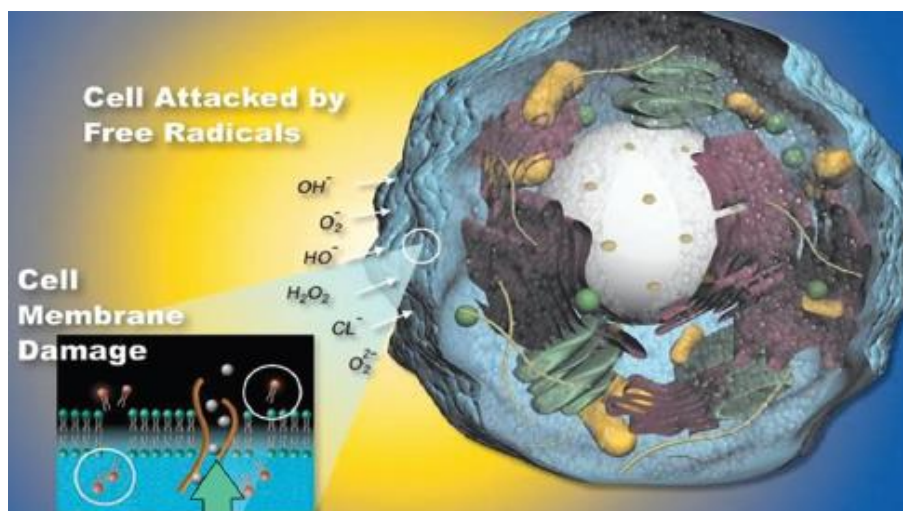


Fig. 1- Cell membrane damage by free radicals

#### *The Health Benefits of Antioxidants: How Do They Prevent Free Radical Damage?<sup>2</sup>*

Biogerontologist Denham Harman was the first to discover the concept of free radicals in 1954, while researching an explanation for aging. Free radicals are a type of a highly reactive metabolite that is naturally produced by our

body as a result of normal metabolism and energy production. They are our natural biological response to environmental toxins like cigarette smoke, sunlight, chemicals, cosmic and manmade radiation, and are even a key feature of pharmaceutical drugs.

Free radical molecules are missing one or more electrons, and this missing electron is responsible for biological oxidation. The incomplete molecules aggressively attack other molecules in order to replace their missing parts. These reactions are called "oxidation" reactions. Oxidation is called "biological rusting," an effect caused by too much oxygen in our tissues.

Free radicals steal electrons from the proteins in our body, which badly damages our DNA and other cell structures. They can create a "snowballing effect" – as molecules steal from one another, each one becomes a new free radical, leaving a trail of biological carnage.

Free radicals tend to collect in cell membranes (lipid peroxidation), which makes the cell lipids prone to oxidative damage. When this happens, the cell membrane becomes brittle and leaky, causing the cell to eventually fall apart and die. Free radicals can severely affect our DNA by disrupting the duplication of DNA, interfering with DNA maintenance and breaking open or altering its structure by reacting with the DNA bases. Free radicals are linked to over 60 different diseases, including:

Cancer	Parkinson's disease	Alzheimer's disease
Cataracts	Atherosclerosis	Diabetes

If our body does not get adequate protection, free radicals can become rampant, causing our cells to perform poorly. This can lead to tissue degradation and risk of diseases.

<b>Free Radical</b>	<b>Influence on Human Disease</b>
1. Peroxyl Radical	Lipid Peroxidation-Cardiovascular Disease—Atherosclerosis
2. Peroxynitrite	Neuro-Degenerative Diseases—Alzheimer's & Parkinson's
3. Hydroxyl Radical	DNA Damage, Cancer
4. Singlet Oxygen	Eye Diseases-Macular Degeneration
5. Superoxide Anion	Mitochondrial Diseases (Energy-Metabolism-Muscle)

**Where antioxidants come in.**

Antioxidants are electron donors. They can break the free radical chain reaction by sacrificing their own electrons to feed free radicals, but without turning into free radicals themselves.

Antioxidants are nature's way of providing our cells with adequate defense against attack by reactive oxygen species (ROS). As long as we have these important micronutrients, our body will be able to resist aging caused by our everyday exposure to pollutants. If we don't have an adequate supply of antioxidants to help squelch free radicals, then we can be at risk of oxidative stress, which leads to accelerated tissue and organ damage.

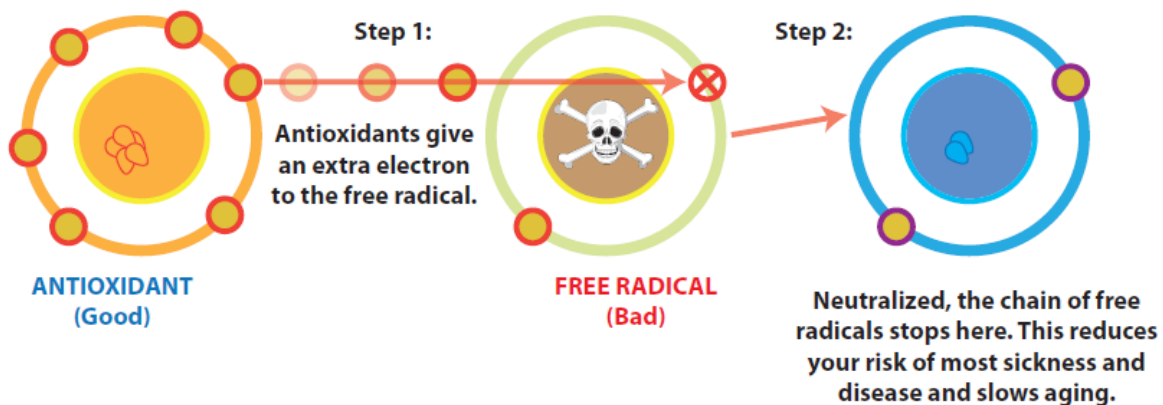


Fig.2- Role of Antioxidants in neutralizing Free radical Damage

Numerous studies have confirmed the benefits of antioxidants in Nutrese powder and the role they play in maintaining good health and reducing our risk of Diabetes, heart disease, Parkinson's, Alzheimer's, and cancer & many more.

Antioxidants also help slow down the aging process, which can have immense effects on our skin health. Important benefits of antioxidants include:

- **Repairing damaged molecules** – Some unique types of antioxidants can repair damaged molecules by donating a hydrogen atom. This is very important when the molecule is a critical one, like our DNA.
- **Blocking metal radical production** – Some antioxidants have a chelating effect – they can grab toxic metals like mercury and arsenic, which can cause free radical formation, and "hug" them so strongly to prevent any chemical reaction from taking place. Water-soluble chelating agents can also escort toxic metals out of our body through urine.
- **Stimulating gene expression and endogenous antioxidant production** – Some antioxidants can stimulate our body's genes and increase our natural defenses.
- **Providing a "shield effect"** – Natural Antioxidants, such as flavonoids, can act as a virtual shield by attaching to our DNA to protect it from free radicals attacks.

- **Promoting cancer cells to "commit suicide"** – Some antioxidants can provide anti-cancer chemicals that halt cancer growth and force some cancer cells to self-destruct (apoptosis).

### *Different Types of Antioxidants*<sup>3</sup>

When classified according to their solubility, antioxidants can be categorized as either soluble in lipids/fat (hydrophobic) or water (hydrophilic). Both of these are required by our body in order to protect our cells, since the interior of our cells and the fluid between them are composed of water, while the cell membranes themselves are mostly made of fat.

Since free radicals can strike either the watery cell contents or the fatty cellular membrane, we need both types of antioxidants to ensure full protection from oxidative damage. Lipid-soluble antioxidants are the ones that protect our cell membranes from lipid peroxidation. They are mostly located in our cell membranes. Some examples of lipid-soluble antioxidants are vitamins A and E, carotenoids, and lipoic acid.

Water-soluble antioxidants are found in aqueous fluids, like our blood and the fluids within and around our cells (cytosol or cytoplasmic matrix). Some examples of water-soluble antioxidants are vitamin C, polyphenols, and glutathione. However, solubility is not the only way to categorize antioxidants. They can also be categorized as enzymatic and non-enzymatic antioxidants.

- **Enzymatic antioxidants**

benefit us by *breaking down and removing free radicals*. They can flush out dangerous oxidative products by converting them into hydrogen peroxide, then into water. This is done through a multi-step process that requires a number of trace metal cofactors, such as zinc, copper, manganese, and iron.

The main enzymatic antioxidants in our body are:

- **Superoxide dismutase (SOD)** can break down superoxide into hydrogen peroxide and oxygen, with the help of copper, zinc, manganese, and iron. It is found in almost all aerobic cells and extracellular fluids.
  - **Catalase (CAT)** works by converting hydrogen peroxide into water and oxygen, using iron and manganese cofactors. It finishes up the detoxification process started by SOD.
  - **Glutathione peroxidase (GSHpx)** and **glutathione reductase** are selenium-containing enzymes that help break down hydrogen peroxide and organic peroxides into alcohols. They are most abundant in our liver.
- **Non-enzymatic antioxidants** benefit by *interrupting free radical chain reactions*. Some examples are carotenoids, vitamin C, vitamin E, plant polyphenols, and glutathione (GSH). Most antioxidants found in supplements and foods are non-enzymatic, and they provide support to enzymatic antioxidants by doing a "first sweep" and disarming the free radicals. This helps prevent our enzymatic antioxidants from being depleted.

Antioxidants can also be classified in terms of their molecular size:

- **Small-molecule antioxidants** work by mopping up or "scavenging" the reactive oxygen species and carrying them away through chemical neutralization. The main players in this category are vitamins C and E, glutathione, lipoic acid, carotenoids, and CoQ10.
- **Large-protein antioxidants** tend to be the enzymatic enzymes outlined above, as well as "sacrificial proteins," that absorb ROS and stop them from attacking our essential proteins. One example of these sacrificial proteins is albumin, which "take the bullet" for crucial enzymes and DNA.

Some antioxidants can be produced by our body. These are:

- **Glutathione** – Known as our body's most powerful antioxidant, glutathione is a tripeptide found in every single cell in our body. It is called "master antioxidant" because it is intracellular and has the unique ability of maximizing the performance of all the other antioxidants, including vitamins C and E, CoQ10, alpha-lipoic acid, as well as the fresh vegetables and fruits that you eat every day.

Glutathione's primary function is to protect our cells and mitochondria from oxidative and peroxidative damage. It is also essential for detoxification, energy utilization, and preventing the diseases we associate with aging. Glutathione also eliminates toxins from our cells and gives protection from the damaging effects of radiation, chemicals, and environmental pollutants.

Our body's ability to produce glutathione decreases with aging. However, there are nutrients that can promote glutathione production, such as high-quality whey protein, curcumin, raw dairy, eggs, and grass-fed meat.<sup>4</sup>

- **Alpha-Lipoic Acid (ALA)** – Aside from its free radical scavenging abilities, this powerful antioxidant is also a:
  - Great modifier of gene expression to reduce inflammation
  - Very potent heavy metal chelator
  - Enhancer of insulin sensitivity

ALA is the only antioxidant that can be easily transported into our brain, which offers numerous benefits for people with brain diseases, like Alzheimer's disease. ALA can also regenerate other antioxidants, like vitamins C and E and glutathione. This means that if our body has used up these antioxidants, ALA can help regenerate them.<sup>5</sup>

- **CoQ10 (Ubiquinone)** – Used by every cell in our body, CoQ10 is **converted by our body to its reduced form, called ubiquinol, to maximize its benefits.** CoQ10 has been the subject of thousands of studies. Aside from naturally protecting you from free radicals, it also:
  - Helps produce more energy for our cells
  - Provides support for our heart health, immune system, and nervous system
  - Helps reduce the signs of normal aging
  - Helps maintain blood pressure levels within the normal range<sup>6</sup>

There are antioxidants that cannot be manufactured inside our body, and must be obtained from antioxidant-rich foods or potent antioxidant supplements. These are:

- **Resveratrol** – Found in certain fruits like grapes, vegetables, cocoa, and red wine, this antioxidant can cross the blood-brain barrier, providing protection for our brain and nervous system.<sup>7</sup>

Resveratrol has been found to be so effective at warding off aging-related diseases that it was dubbed the "fountain of youth."

Aside from providing free radical protection, this antioxidant can help:

- Inhibit the spread of cancer, especially prostate cancer
  - Lower our blood pressure
  - Keep our heart healthy and improve elasticity of our blood vessels
  - Normalize our anti-inflammatory response
  - Prevent Alzheimer's disease<sup>8</sup>
- **Carotenoids** are a class of naturally-occurring pigments that have powerful antioxidant properties. They are the compounds that give foods their vibrant colors. There are over 700 naturally-occurring carotenoids, and right now, you probably have at least 10 different kinds circulating through our bloodstream.<sup>9</sup> Carotenoids can be classified into two groups:

**Carotenes** contain no oxygen atoms. Some examples are lycopene (found in red tomatoes) and beta-carotene (found in orange carrots), which is converted by our body into vitamin A.

**Xanthophylls** contain oxygen atoms, and examples include lutein, canthaxanthin (the gold in chanterelle mushrooms), zeaxanthin, and astaxanthin. Zeaxanthin is the most common carotenoid that naturally exists in nature and is found in peppers, kiwifruit, maize, squash, and oranges.

**Vitamin C** – Dubbed the "grandfather" of the traditional antioxidants, vitamin C has a wide range of astonishing health benefits. As an antioxidant, vitamin C can help:

- Battle oxidation by acting as a major electron donor
- Maintain optimal electron flow in our cells
- Protect proteins, lipids, and other vital molecular elements in our body

Vitamin C is also essential for collagen synthesis, which is an important structural component of our bones, blood vessels, tendons, and ligaments.

**Vitamin E** – Natural vitamin E is a family of eight different compounds: four tocopherols and four tocotrienols. We can obtain all these vitamin E compounds from a balanced diet composed of wholesome foods. However, if we take a synthetic vitamin E supplement, we will only get one of the eight compounds.

**NUTREASE POWDER- Nature's blend of Antioxidants to prevent and cure diseases.**

Nutrase Powder, A blend of natural Antioxidant Phytonutrients to prevent & cure diseases. Antioxidant phytochemicals found in Nutrase powder plays an important role in the prevention and treatment of chronic diseases caused by oxidative stress.

**COMPOSITION OF NUTREASE POWDER**

Serving Size : 30g (1 Scoop)		Serving per container : 20
Supplement Facts	Per 100g Approx	Per 30g Approx
Energy	349.86 Kcal	104.96 Kcal
Protein	38.723g	11.61g
Total Carbohydrate	53.05g	15.91g
Dietary Fiber	22.17g	6.648g
Sugar	6.093g	1.82g
Total Fat	3.00g	0.902g
Saturated Fats	2.62g	0.78g
Mono Unsaturated Fats	0.133g	0.040g
Poly Unsaturated Fats	0.116g	0.034g
<b>VITAMINS</b>		
Vitamin A	2000IU	600IU
Vitamin C	40mg	12mg
Vitamin E	10mg	3mg
Thiamine	0.075mg	0.03mg
Riboflavin	0.05mg	0.015mg
Niacin	0.21mg	0.063mg
Pantothenic Acid	0.24mg	0.072mg
Pyridoxine	0.1mg	0.03mg
Folic Acid	0.002mg	0.0006mg
<b>MINERALS</b>		
Calcium	100mg	30mg
Iron	5mg	1.5mg
Phosphorus	200mg	60mg
Selenium	100mcg	30mcg
Copper	5mg	1.5mg
Chromium	100mcg	30mcg
Potassium	50mg	15mg
Sodium	50mg	15mg
Choline	15mg	4.5mg
Manganese	2mg	0.6mg
Zinc	5mg	1.5mg
Magnesium	100mg	30mg

**INGREDIENTS :**

Inulin, Soya Protein Isolate, Pea Protein Isolate, Whey Powder, Cyclodextrin, Partially Hydrolyzed Guar gum, Guava Leaf Extract, Moringa Extract, Sesbania Extract, Annatto Extract, Green Tea Extract, Holy Basil Extract, Amla Extract, Lemon Peel Extract, Citrus Bioflavonoids, Flax Seed Powder, Brassica, Lactobacillus Gasseri, Papaya Fruit Latex, Pine Apple Extract, Steviol Glycosides (Rebaudioside A), Ginger Powder, Curcuminoids, Banana Leaf Extract, β-Carotene, Di Calcium Phosphate, Choline, Copper Sulphate, Manganese Sulphate, Fructose, Riboflavin, Skimmed Milk Powder, Xanthum gum, Apple Fiber, Sodium Carboxymethyl Cellulose, Mango Powder and Mango Flavor.

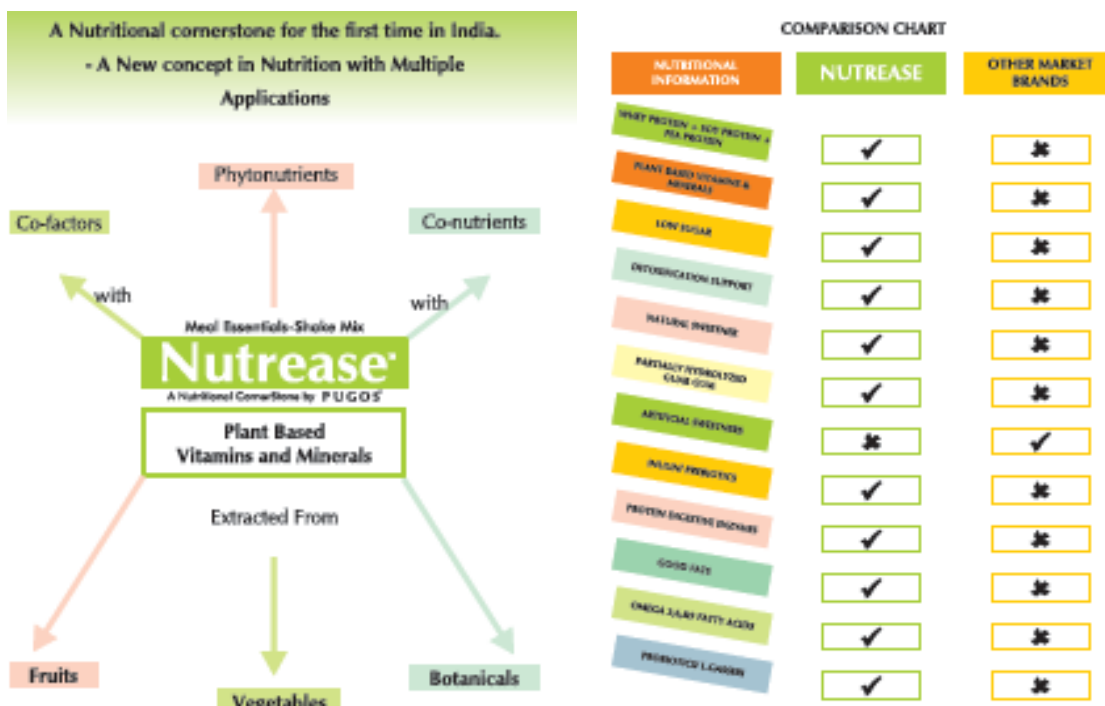
## MECHANISM OF ACTION OF NUTREASE POWDER

Nutrase contains standardized plant-based vitamins and minerals which include a diverse mixture of substances including dozens of closely related vitamins and phytonutrients to help potentiate insulin action and thus influence carbohydrate, lipid and protein metabolism. Targeted botanicals and antioxidants like curcuminoids, sulforaphane glucosinolate from Broccoli Extract and Ginger Extract to help regulate metabolism, stimulate digestion and to provide long-lasting cell protection from free radical damage.

Probiotics and prebiotics like Lactobacillus gasseri and Inulin to help balance intestinal flora, reduce waist circumference and reduce adipocyte size through inhibition of leptin levels. Good fats like omega 3,6 & 9 from Flaxseed and Medium Chain Triglycerides (MCT), help to maintain healthy levels of blood sugar and triglycerides, enhance metabolism to burn more calories. Optimum fibers like alpha cyclodextrins, partially hydrolyzed guar gum, and oat fiber to help promote intestinal regularity, to increase the satiety and improve glycemic effect of meal.

Plant enzymes like bromelain and papain for better digestion and absorption of proteins. Premium blend of protein concentrate and pea protein isolate to meet the daily protein requirements and to maintain lean muscle mass. Added with natural sweetener to maintain healthy blood sugar levels.

## PHARMACOLOGICAL ACTION OF EACH INGREDIENTS OF NUTREASE POWDER



**Nutrese contains plant based broad spectrum Vitamins & Minerals which includes a diverse mixture of substances including dozens of closely related Vitamers and Phytonutrients**

#### **BANANA LEAF EXTRACT:**

- ▶ Banana leaves are standardized for **Sodium** and **Potassium**.
- ▶ Promotes healthy digestion & contains large amounts of polyphenols (natural antioxidants) such as epigallocatechin gallate, or EGCG, a potent antioxidant and skin rejuvenator.
- ▶ Helps to promote fat oxidation and lowering body weight.



#### **MORINGA EXTRACT:**

- ▶ Natural energy booster, standardized for **Chromium**.
- ▶ Contains massive amounts of antioxidants like vitamin C, beta-carotene, quercetin, and chlorogenic acids. It is also rich in Protein, Vitamin A, Vitamin B6, and Minerals.
- ▶ Essential nutrient that potentiates insulin action, and thus influences carbohydrate, lipid, and protein metabolism.

#### **MUSTARD SEED EXTRACT**

- ▶ Mustard seed extract standardized for **Selenium**, along with the co-factors and co-nutrients.
- ▶ Helps to support thyroid hormone production, function as part of many enzymes, has antioxidant effects, can help in lowering blood pressure, moderate blood sugar levels, maintain healthy skin, and maintains immune system.



#### **CURRY LEAF EXTRACT**



- ▶ Curry leaf extract is standardized for **Iron** and is also a good source of antioxidant.
- ▶ Has shown to have medical properties such as anti-diabetic, antioxidant, antimicrobial, anti-inflammatory and hepato-protective.
- ▶ Helps to reduce bad LDL cholesterol levels and maintains hemoglobin levels.
- ▶ It also contains various nutrients like vitamin A, C, B, E, Calcium, Phosphorus, Magnesium and copper.

### GUAVA LEAF EXTRACT:

- ▶ Guava leaves extract is standardized for **Zinc** & it contains flavonoids, polyphenols, ursolic acid, essential oils and tannins.
- ▶ Helps to maintain growth, the immune system, cell growth and division.
- ▶ Helps in breakdown of carbohydrates.



### AMLA EXTRACT

- ▶ Amla extract standardized for **Vitamin C**, contains polyphenols and bioflavonoids.
- ▶ It is also rich in anti-oxidants, fibre and minerals like calcium and phosphorus.
- ▶ Helps in speed metabolism, especially that of proteins.

### ANNATTO EXTRACT:

- ▶ Annatto extract standardized for **Vitamin E**.
- ▶ Helps to limit the liver's ability to produce LDL (Low Density Lipoprotein) cholesterol.
- ▶ Helps to improves digestion.



### BLEND OF GUAVA, SESBANIA, HOLY BASIL, LEMON PEEL EXTRACT AND CITRUS BIOFLAVONOIDS:

- ▶ This extract standardized for all **Natural B-Complex Vitamins** (except B-12), along with its co-nutrients and co-factors that help to support the activity and stability of the B-Complex vitamins.
- ▶ Guavas are rich in nutrients including vitamins, carotenoids, polyphenols and antioxidant pigments & lemon peels are rich in vitamins, including folic acid and folates, and phytonutrients.
- ▶ Tulsi is a sacred plant for Hindus, and a very well documented medicinal plant in Ayurveda. Modern science has confirmed that it has many healthy nutrients like ursolic acid & rosmarinic acid that provide a wide range of health benefits.

## SOLUBLE AND INSOLUBLE FIBERS

### HEALTH BENEFITS OF FIBER

- ▶ Normalizes bowel movements & maintain bowel health.
- ▶ Helps control blood sugar levels & lowers cholesterol levels.
- ▶ Aids in achieving healthy weight.



### This product uses four types of specialty fibers from:

- ▶ SUNFIBER FROM TAIIO (Partial hydrolyzed guar gum)
- ▶ INULIN FROM FIBRULINE, BELGIUM (Inulin- Chichory extract)
- ▶ GAMMA CYCLODEXTRIN FROM WACKER, US
- ▶ APPLE FIBER FROM VITACELL

### SUNFIBER FROM TAIIO (Partial hydrolyzed guar gum)

- ▶ Helps aid satiety (feeling of fullness) and improves glycemic effect of a meal.
- ▶ Easily digestible, prevents gas and bloating which is often experienced with a high fiber supplement
- ▶ Helps to improve mineral absorption.
- ▶ Helps to promote intestinal regularity & maintain digestive health.

### INULIN FROM FIBRULINE, BELGIUM (Inulin- Chichory extract)

- ▶ Helps to provide the energy source for the beneficial bacteria living in the gut.
- ▶ Helps to relieve from constipation.
- ▶ Helps to increase calcium absorption and possibly magnesium absorption.
- ▶ A natural prebiotic

### CYCLODEXTRIN FROM WACKER, US

- ▶ Water soluble, non-digestible fiber.
- ▶ Cyclodextrin helps to coat fat molecules in the food making them incapable to absorb.

### APPLE FIBER FROM VITACELL, INDIA

- ▶ Helps to remove toxic substances from the digestive tract.
- ▶ Helps to remove unhealthy fats before they are stored in the body.
- ▶ Helps to reduce your risk for heart problems & enhance bowel function.



## TARGETED BOTANICALS

### BROCCOLI EXTRACT

- ▶ Sulforaphane glucosinolate extracted from Broccoli is a potent anti-oxidant.
- ▶ It is rich in calcium, iron & vitamin A, C & E.
- ▶ Provides long-lasting cell protection from free radical damage.
- ▶ Helps to exert a fat burning effect by triggering the breakdown of fat cells.
- ▶ Helps to prevent colon cancer, reduce blood pressure and heart disease.
- ▶ Helps to improve digestion.



### CURCUMINOIDS FROM MOTHER TURMERIC EXTRACT

- ▶ Potent anti-oxidant, anti-inflammatory & cancer preventive molecule.
- ▶ Helps to assist the liver's detoxification activity.
- ▶ Controls appetite & increases the production of an adiponectin hormone.
- ▶ Increases the body's natural defense against allergens by increasing antibody response.
- ▶ Helps to lower bad cholesterol and improves digestion.

### GINGER EXTRACT

- ▶ An anti-inflammatory
- ▶ Improve blood sugar levels & leptin levels
- ▶ Helps to regulate metabolism, stimulate digestion and reduces cortisol production.
- ▶ Helps to regulate cholesterol and increase energy level.



## PRO-BIOTIC SUPPORT

### (LACTOBACILLUS GASSERI)

- ▶ Lactobacillus gasseri helps to inhibit increase in body weight and white adipose tissue weight & help in reducing waist circumference. (Seun-Pil jung. Et al., K.J. F.M. 2013; 34: 80-89)
- ▶ Lactobacillus gasseri helps to reduce adipocyte size through inhibition of energy input and the level of leptin. (Essam M. Hamad. Et al., B.J. Nutrition (2009), 101, 716-724)
- ▶ Lactobacillus gasseri helps to reduce the serum and hepatic cholesterol and increase excretion of faecal fatty acids and total neutral faecal sterols. (Essam M. Hamad. Et al., B.J. Nutrition (2009), 101, 716-724)

## GOOD FATS

### FLAXSEED POWDER WITH OMEGA 3, 6, 9 FATTY ACIDS

- ▶ Helps to maintain healthy levels of blood sugar and triglycerides.
- ▶ Helps to promote healthy insulin response & reduces cholesterol.
- ▶ Supports colon detoxification, fat loss, increase metabolism and fat burning potential.

### MEDIUM CHAIN TRIGLYCERIDES (MCT)

- ▶ Helps to enhance metabolism to burn more calories.
- ▶ Good source of energy and preserves muscle glycogen.
- ▶ Helps to suppress appetite.



### PLANT ENZYMES FOR BETTER ABSORPTION PAPAIN FROM PAPAYA FRUIT LATEX AND BROMELIN FROM PINEAPPLE EXTRACT

- ▶ Protein digestion enzymes.
- ▶ Helps to break large protein molecules into smaller and easing their absorption.
- ▶ To help to reduce Irritable Bowel Syndrome (IBS)



The enzymes helps to breakdown any toxin molecules that have a neutral pH. Hence, the stomach is able to break down proteins that are normally absorbed and transferred to fat, which is known as enzyme digestion. This stops the digestive system from malfunctioning.





**One and only supplement with standardized plant based Vitamins & Minerals**



Figure 1. Most “natural” vitamin supplements are chemically stripped down to a single vitamer, which are more closely related to synthetic vitamins than true plant-based vitamins.

**Synthetic Vitamins & Minerals**

- ▶ Are made up of industrial chemicals like petroleum derivatives (hydro carbons).
- ▶ Chemical structure varies compared to Natural and plant based vitamins & minerals.
- ▶ Doesn't contain broad spectrum of closely related vitamins, minerals and phytonutrients co-factors and conutrients.
- ▶ Has failed to protect against diseases.
- ▶ Less Bioavailable.
- ▶ They are less absorbed and have more risks of Side effects.

**Plant-Based Vitamins & Minerals**

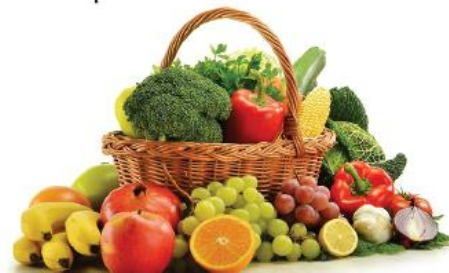
- ▶ Extracted from fruits vegetables, herbs, fungi and other natural sources.
- ▶ Chemical structure and chemical diversity of vitamins and phytonutrients are naturally retained.
- ▶ contains broad spectrum of closely related Vitamins, Minerals, Phytonutrients, Co-factors, and Co-nutrients.
- ▶ Has shown effective protection role against diseases.
- ▶ Bioavailability is purely high.
- ▶ Highly absorbed and have very less side effects.

Synthetic /  
isolated vitamins



VS.

Broad-spectrum  
plant-based vitamins



**SUPPLEMENT FACTS**

**Presentation:** POWDER

**Usage:** As a food supplement. It is a combination of Natural vitamins and minerals Natural Antioxidant Phyto-Nutrients to improve health and vitality.Provides Natural Antioxidant support.

**Contra-indications:** Product is contra-indicated in persons with Known hypersensitivity to any component of the product hypersensitivity to any component of the product.

**Recommended usage:** Once or twice a day along with portion controlled nutritious meals and exercise.

One Serving (30g- 1 Scoop) provides 104 Calories, 11.61g of proteins, 6.64g of Fiber and 1.82g of Sugar per day.

“Do not exceed the recommended daily dose”.

**Directions for Use:** Take one level scoop (30g) with skimmed milk or water to make a cup of 200ml. Gently shake well in shaker or stir well until the powder is evenly dispersed and drink immediately.

**Administration:** Taken by oral route at any time with food.

**Precautions:** Food Supplements must not be used as a substitute for a varied and balanced diet and a healthy lifestyle. This Product is not intended to diagnose, treat, cure or prevent any diseases. Do not exceed the recommended daily dose.

**Warnings:** If you are taking any prescribed medication or has any medical conditions always consults doctor or healthcare practitioner before taking this supplement.

**Side Effects:** Mild side effects like nausea, headache and vomiting in some individuals have been reported.

**Storage:** Store in a cool, dry and dark place.

## SUMMARY & CONCLUSION

Nutrase Powder, A blend of natural Antioxidant Phytonutrients to prevent & cure diseases. Antioxidant phytochemicals found in Nutrase powder plays an important role in the prevention and treatment of chronic diseases caused by oxidative stress. They often possess strong antioxidant and free radical scavenging abilities, which are also the basis of other bioactivities and health benefits. Phytonutrients in Nutrase powder play a positive role by maintaining and modulating immune function to prevent specific diseases. Being natural products, they hold a great promise in clinical therapy.

## REFERENCES

1. B. Halliwell and J. M. C. Gutteridge, “The Definition and Measurement of Antioxidants in Biological Systems,” *Free Radical Biology and Medicine*, Vol. 18, No. 1, 1995, pp. 125-126. doi:10.1016/0891-5849(95)91457-3
2. B. Halliwell, “Biochemistry of Oxidative Stress,” *Biochemical Society Transactions*, Vol. 35, No. 5, 2007, pp. 1147-1150. doi:10.1042/BST0351147
3. M. Carocho and I. C. F. R. Ferreira, “A Review on Anti-oxidants, Prooxidants and Related Controversy: Natural and synthetic compounds. Screening and Analysis Methodologies and Future Perspectives,” *Food and Chemical Toxicology*, Vol. 51, 2013, pp. 15-25. doi:10.1016/j.fct.2012.09.021
4. K. Rahman, “Studies on Free Radicals, Antioxidants, and Co-Factors,” *Clinical Interventions in Aging*, Vol. 2, No. 2, 2007, pp. 219-236.
5. D. V. Ratnam, D. D. Ankola, V. Bhardwaj, D. K. Sahana and M. N. V. R. Kumar, “Role of Antioxidants in Prophylaxis and Therapy: A Pharmaceutical Perspective,” *Journal of Controlled Release*, Vol. 113, No. 3, 2006, pp. 189- 207. doi:10.1016/j.jconrel.2006.04.015

6. M. Valko, D. Leibfritz, J. Moncol, M. T. D. Cronin, M. Mazur and J. Telser, “Free Radicals and Antioxidants in Normal Physiological Functions and Human Disease,” *International Journal of Biochemistry & Cell Biology*, Vol. 39, No. 1, 2007, pp. 44-84. doi:10.1016/j.biocel.2006.07.001
7. EFSA, “Scientific Opinion on the Reevaluation of Butylated Hydroxytoluene BHT (E 321) as a Food Additive. EFSA Panel on Food Additives and Nutrient Sources Ad- ded to Food (ANS),” *European Food Safety Authority Journal*, Vol. 10, No. 3, 2012, p. 2588. <http://www.efsa.europa.eu/en/efsajournal/doc/2588.pdf>
8. C. H. Foyer and G. Noctor, “Redox Sensing and Signal- ling Associated with Reactive Oxygen in Chloroplasts, Pe- roxisomes and Mitochondria,” *Physiologia Plantarum*, Vol. 119, No. 3, 2003, pp. 355-364. doi:10.1034/j.1399-3054.2003.00223.x
9. C. H. Foyer and S. Shigeoka, “Understanding Oxidative Stress and Antioxidant Functions to Enhance Photosyn- thesis,” *Plant Physiology*, Vol. 155, No. 1, 2011, pp. 93- 100. doi:10.1104/pp.110.166181
10. J. Bailey-Serres and R. Mittler, “The Roles of Reactive Oxygen Species in Plant Cells (Editorial),” *Plant Physi- ology*, Vol. 141, No. 2, 2006, p. 311doi:10.1104/pp.104.900191.