

# NutraGrow Syrup

## Therapeutic Rationale :

**NutraGrow Syrup (Growth hormone releaser)** It is a combination of amino acids and colostrum that are important for the growth, development of children and the overall wellbeing. Since this combination promotes cell division, muscle and cell growth, it can stimulate tissue repair and heal the wound at a faster rate and bone health in children.

**NutraGrow** contains L-Arginine, L-Ornithine, L-Histidine, L-Tryptophan and L-Lysine. Also contains Calcium and Colostrum, an essential mineral for healthy bones and teeth. Zinc helps for improving growth and health, boosting the immune system and for wound healing. This combination of amino acids, colostrum and Calcium that are important for the development and growth of children. The amino acids are beneficial for releasing growth hormones, which aid in fat metabolism and muscle development. Colostrum is rich in immune and growth factors, such as Insulin-like Growth Factor1 (IGF-1) that may be useful for stimulating muscle growth. There are two factors in determining the human height, genetics and environmental factors. Genetic factors cannot be altered, while environmental factors can. These include nutrition or diet, exercise, pollution exposure, sleep patterns, fitness, climate, and even happiness, which is associated with an individual's psychological well-being. Another aspect is the human growth hormone that can also affect the growth and final height. In adolescents, the hormone secretion occurs in highest amount during sleep and it can be enhanced by exercise. If not enough growth hormone is secreted by the pituitary gland, then the child needs medical attention to find out if there is a deficiency in growth hormone and appropriate treatment will be given.

**L-Arginine** is a semi-essential amino acid, meaning that it can be manufactured by the human body. It is commonly found in dairy, meat and poultry, fish, nuts and chocolate. L-Arginine plays an important role in cell division, the healing of wounds, removing ammonia from the body, immune function, and the release of several hormones, including growth hormone and insulin. L-Arginine is the most potent growth hormone secretagogue in human. It potentiates the growth hormone response to growth hormone releasing hormone (GHRH), exerts a weaker prolactin-releasing effect, stimulates insulin and glucagons, and induces a biphasic glucose variation. It was found that the stimulatory effects of L-Arginine were mediated by suppression of the secretion of endogenous somatostatin, which is also known as growth hormone inhibiting hormone. L-Arginine is an essential amino acid, and appears to be synergistic with L-lysine for increasing growth hormone.

**L-Ornithine** is an amino acid manufactured by the body when L-Arginine is metabolised during the production of urea. Therefore, L-Ornithine is a central part of the urea cycle, which allows for the disposal of excess nitrogen. With its main use in L-Arginine biosynthesis, L-Ornithine acts as an intermediate in metabolic processes.

**L-Histidine** is one of the 20 most common natural amino acids present in proteins. In humans, L-Histidine is considered as an essential amino acid because adults generally produce adequate amounts but children may not. It is also a precursor of histamine, a compound released by immune system cells during an allergic reaction.

**L-Tryptophan** is an essential amino acid in the human diet and is found particularly plentiful in chocolate, oats, bananas, mangoes, dried dates, dairy, red meat, eggs, fish, poultry, sesame, chickpeas, sunflower seeds, pumpkin seeds and peanuts. Beside functioning in protein biosynthesis like the rest of the amino acids, tryptophan also acts as a biochemical precursor for serotonin, a neurotransmitter that plays important roles in sleep, emotional moods, pain control and other body functions. Niacin, vitamin B3, is also synthesized from tryptophan. These findings indicate an important role for serotonin in growth hormone and prolactin secretion, as well as in mood regulation. Hence, growing children taking tryptophan may gain the benefits of enhanced hormone secretion and improved their mood, as well as other serotonergic functions.

**L-Lysine** is an essential amino acid in human nutrition because the body cannot produce it; therefore, it must be taken in either by diet or supplementation. It is found in the protein of foods such as beans, cheese, yogurt, meat, milk, brewer's yeast, wheat germ, and other animal proteins. Lysine plays a vital role in helping the body absorb iron and zinc. It also increases the intestinal absorption of calcium and eliminates its excretion by the kidney. Helps building muscle, maintaining bone strength, supporting the immune system, aiding recovery from injury or surgery, and regulating hormones, antibodies, and enzymes. It may also have antiviral effects.

**Colostrum** is one of the nature's nutrient-dense foods. It is a form of pre-milk fluid produced by the mammary glands of the cows during the first 48 hours after giving birth. It contains high levels of antibodies called "secretory immunoglobulins" that protect the newborns from harmful viruses and bacteria. Colostrum is also a rich source of growth factor, such as Insulin-like Growth Factor-1 (IGF-1), a polypeptide protein hormone that plays an important role in childhood growth and continues to have anabolic effects in adults. IGF-1 is essential for regulating cell growth and development, as well as cellular DNA synthesis.

**Calcium and Vitamin D3** is the most abundant, essential mineral in the human body. This mineral is needed to form bones and teeth and is also required for blood clotting, blood pressure regulation, transmission of signals in nerve cells, and muscle contraction. Vitamin D3 is most important of all vitamins which help the bones to make them long and strong. Vitamin D also helps the body to absorb calcium and phosphorus which also contributes to growing taller.

**Zinc** is vital for the normal growth and development of the reproductive organs and brain and plays a role in the normal functioning of the immune system and many other processes in the body.

In summary, NutraGrow syrup (Growth Hormone Releaser) is an amino acid formulation that was designed to stimulate the production of growth hormones in the body. It also contains calcium, and colostrum that is rich in growth factors. It is important for parents to help their children to obtain proper nutritious diet, have a good sleep pattern, be more active and maintain a happy mood. NutraGrow is a useful supplement for short children, especially before and during their puberty period.

## PRODUCT INFORMATION

### Per 5 ml

L-Arginine Hydrochloride	120 mg
L-Ornithine Hydrochloride	180 mg
L-Histidine-base	30 mg
Colostrum	25 mg
Calcium bisglycinate	200 mg
L-Tryptophan	8 mg
L-Lysine	100 mg
Zinc elemental	5 mg
Vitamin D3	200 IU

### Dosage:

Children (3-7 years) :

4 ml two times daily.

Children (8 years and above)

8 - 10 ml two times daily.

Take 30 minutes before food and prior to bedtime, or as directed by the physician

SHAKE WELL BEFORE USE.

## Indications

NutraGrow syrup it is a combination of amino acids and colostrum that is indicated for the growth, development of children and the overall wellbeing.

## Special Precautions & Warnings:

Seek professional health advice if suffering from a medical condition, taking medication or experiencing allergies to dairy products before supplementing. Allergy to cow's milk:

If you are allergic to cow's milk or milk products, you may also be allergic to bovine colostrum in that case, it is best to avoid it. Care needs to be taken when given to younger children and ADULT SUPERVISION IS REQUIRED. To be taken as mentioned on the label or as directed by the Physician.

## Storage and Packing :

Store in the original package at temperature below 25°C.

The product is packed into PET bottles of 200 ml volume, closed with a Child – Resistant plastic cap.

The product also contains a measuring cap.



Marketing Authorization Holder:

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