

COMMERCIAL BULLETIN

ALOE VERA SPORT NUTRITION



ALOE VERA AS A BIOAVAILABILITY ENHANCER



ALOE VERA, FUELING YOUR PERFORMANCE



ACTIVE LIFESTYLES AND JOINT HEALTH



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SPORTS NUTRITION SECTOR

Currently the second-largest market segment in the supplement industry

Years ago, sports nutrition was the domain of professional athletes. However, interest in this field is rapidly expanding, and the various sports products that were once targeted at a specific demographic have now hit the market. This is reflected not only in public perception, but in financial fact, as the sports nutrition sector, currently the second-largest market segment in the supplement industry. The global sports nutrition market accounted for \$28.37 billion in 2016 and is expected to reach \$45.27 billion by 2022, growing around 8.1% between 2017 and 2022, according to a new report from Zion Market Research.

The market is witnessing a genuine advancement of sport nutrition technology and products. The growth in demand is more inclined towards the use of herbal supplements, a shift in consumer preference from synthetic ingredients to more natural formulations. These products are particularly positioned for athletes, who tend to drift towards hydrators, cleaner fuels and recovery offering.



Sports supplements and related health products are not just for trained athletes. Inevitably, a growing number of everyday people consume these items on the daily as part of their pursuit of a healthy lifestyle. But even as sports nutrition manufacturers win over these non-niche consumers, the category's more traditional clientele bodybuilders, elite athletes, and so on shouldn't be forgotten.

Sports nutrition isn't just for serious athletes anymore. The interest in sports nutrition is growing in part from increased household incomes worldwide and people aspiring toward healthier lifestyles, especially a healthy body weight.



Consumers are increasingly concerned about health. They also are learning more about the benefits of exercise and they need help coping with increasingly busy lifestyles. For all these reasons, AMB WELLNESS can point to increased demand for products designed to aid physical performance including Aloe Vera as carrier, vehicle, or bio enhancer of your formula, existing line or new one.

One major way that companies appeal to this sport nutrition segment is through education. The everyday athlete can often be intimidated by complex formulation, for that AMB WELLNESS offer to be a trusted vehicle, introduce to your customer's aloe sport drink enriched with minerals, vitamins, aminoacids, trace minerals, protein and others.

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In addition to bodybuilders, athletes and sports hobbyists, sports nutrition buyers now include a new group that he dubs “lifestyle users”. These users aren’t athletes or even always athletically inclined, but see sports nutrition products as a sort of stepping stone in building healthier lives. In sports nutrition products, such as weight loss and nutrition for the elderly, and the list doesn’t end there, also in the market you can offer immune-support products along with traditional sports supplements is another way to spread sports nutrition into new areas



As sports nutrition experiences an influx of consumer and scientific interest, not only is more general uses being found for sports nutrition products, but supplements from other areas are proving useful in sports nutrition as well. Today’s more mainstream audience wants to increase energy and improve athletic performance, but they’re unwilling to accept even the possibility of negative cardiovascular and central nervous system side effects.

The market demands much greater differentiation than it did in the past. The days when a single multivitamin tablet satisfied all consumers are gone, today manufacturers have to offer functional foods with specific health benefit to meet individual consumer needs, the lifestyles of the consumer are changing and your company needs to adjust to new trends. In terms of the active ingredients that are up and coming in functional foods, aloe Vera has a well-known reputation in the consumer’s minds.

Drinks have seen the biggest change in this regard. Sports drinks once reserved for professional and hard-core workout enthusiasts (before, during and after exercise) now are casually consumed as refreshment by a broader range of consumers.

The sports nutrition consumer base continued to expand into active consumers interested in protein, energy and performance ingredients. In response, companies rethought formulas, flavors and delivery technologies.



Every consumer’s goal is to get the nutrition they are looking for in the form of foods and beverages that are easier to include in their daily diet. Major factors that fuel the growth of Aloe Vera extracts market includes increasing number of health conscious consumers, rising number of urban population coupled with increasing consumer awareness regarding the benefits of Aloe Vera extracts. In particular, consumers are gravitating toward ingredients within certain supplement platforms based on their perceptions that products can improve their well-being.

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These platforms include digestive health, active nutrition/sports nutrition, healthy aging and nutritional oils. Manufacturers and marketers would be wise to understand that dosage forms for delivery of these ingredients can make as big a difference in consumer satisfaction as the ingredients themselves.

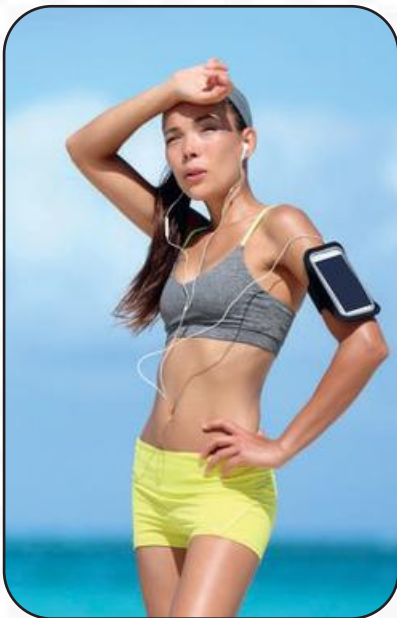
In fact, delivery forms can maximize the potential benefit of those ingredients. Today's busy consumers look for easy-to-use formats. Healthy lifestyle consumers are also hungry for anything they perceive to be "good for prevent illness.

There are different sports nutrition applications to lifestyle users and professional athletes alike are catering to differing stages of the workout and Aloe Vera can work in your formulas.

- While this interest is triggering growth in pre-workout,
- Intra-workout (performance during exercise)
- Post-workout products (body recovery, avoid fatigue, immune system, etc.)

The human body is a well-oiled, mean machine, and like a car, it needs fuel. The purer the fuel, better is the performance. Finding the best fuel, though, is a two-step problem.

Sports nutrition refers to the consumption of nutrients such as vitamins, minerals, supplements and organic substances that comprise of carbohydrates, proteins and fats. Sports nutrition products, such as sports drinks, sports food & sports supplements are developed for, and consumed by athletes and bodybuilders to improve their overall health, performance, and muscle growth. Sports drinks are primarily consumed by athletes to replenish the water level in the body. These products are increasingly attracted by lifestyle and recreational users. Currently, the developing countries represent a huge growth potential for these products on account of rapid urbanization, increasing disposable income, and a higher percentage of the young population.



The sports nutrition market is expected to witness significant growth within the forecast period on account of increasing demand from recently emerging lifestyle and recreational users. In addition, increasing health awareness coupled with increasing number of health clubs and fitness centers is also expected to boost this market within the forecast

Rapid urbanization and increasing disposable income are also expected to boost growth in the sports nutrition market. The high number of cheap counterfeit products affects sales of reputed companies and therefore, availability of these products is expected to restrict the growth of sports nutrition market. Expansion of distribution channels is also expected to be an opportunity for growth in this market in coming years.

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The sports drinks segment accounted for the largest market share of the overall market in 2016, and is expected to be the leading contributor in coming six years. Rapid urbanization coupled with increasing disposable income is expected to fuel demand for sports drinks globally. Mostly used by athletes, sports drinks are undergoing mass adoption by lifestyle and recreational users as well. The market growth for sports drink segment was more than 6.9% in 2016. However, the sports food segment is expected to witness the fastest growth in the coming six years. Demand for sports supplements is expected to be driven in part by increasing consumption among women and other household users focused on wellness.

When discussing pre-workout nutrition, there is a relative degree of freedom with regard to what nutrients are ideal. The point of pre-nutrition is to supply the system with nutrients specific to the general goals of the athlete or participant. One common goal of pre-nutrition is to raise enough energy to get one ready for a workout. During the pre-workout period, which generally ranges from two to four hours preceding a workout, carbohydrates serve as a good option to keep energy levels high prior and into a workout, consuming simple carbohydrates during this time period improves muscle and glycogen stores and helps to maintain blood glucose levels, especially in conjunction with amino acids like arginine, lysine and the branched chain amino acids (BCAAs). This can allow for a decreased amount of time to complete a physical activity like jogging a certain distance or a set of pushups.



ALOE VERA

Aloe as a bioavailability enhancer

Factors such as increasing trend of consumers towards healthy lifestyle, coupled with increased usage of Aloe Vera extracts as an ingredient on food, pharmaceutical and cosmetics industries are showing a global market growth.

Aloe's polysaccharides contribute on drug absorption due to its enhancing properties. Currently, the new trend on Aloe Vera Global Market is using the Aloe for Nutraceuticals as a vehicle for other functional ingredients enhancing their bioavailability instead of using other carriers that will not contribute. Aloe Vera is a very promising future nutritional Bio-enhancer. Aloe Vera Powder has shown to increase the solubility of water-insoluble drugs. The concentration of Aloe Vera is directly proportional to the drug release; Aloe Vera can be used as a bioavailability enhancer. Bioavailability enhancers are drug facilitators, they are the molecules which by themselves do not show typical drug activity but when used in combination they enhance the activity of drug molecule in several ways including increasing bioavailability of the drug across the membrane, potentiating the drug molecule by conformational interaction, acting as receptors for drug molecule and making target cells more receptive to drugs. A 'bio enhancer' is an agent capable of enhancing bioavailability and bio efficacy of a particular drug with which it is combined, without any typical pharmacological activity of its own at the dose used.



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These are also termed as 'absorption enhancers' which are functional excipients included in formulations to improve the absorption of a pharmacologically active drug. Nutritional bio-enhancers enhance absorption by acting on gastrointestinal tract. Antimicrobial bio-enhancers mostly act on drug metabolism processes. Bio enhancers One possible way to reduce this drug dosage and toxicity is to increase the drug bioavailability; the rate at which a therapeutically active substance enters the systemic circulation and becomes available at the required site of action.

The results of two different Aloe Vera Inner Gel preparations indicate that Aloe Vera improves the absorption of both the vitamin C and E. The absorption is slower and vitamins last longer in the plasma with aloe, this increases bioavailability of vitamin C and E in human. They just enhance the activity and availability of the main drugs; such molecules are called bio-enhancers. Bioavailability enhancers are actually the drug facilitators which do not show typical drug activity by themselves but when used in combination, enhance the activity of drug molecule by increasing bioavailability and making it biologically available across the membrane, potentiating it by conformational interaction, and acting as receptors for drug molecule and making target cells more receptive to drugs.

ALOE VERA AND TEER

Aloe Vera and Effect on biological membrane permeation and Intestinal drug absorption enhancement. The polysaccharides in the Aloe Vera are responsible to contribute to a large extent to the effect on the TEER of the excised rat intestinal tissue. This reduction in TEER of the excised rat intestinal. Tissue by the Aloe Vera indicates their ability to open the tight junctions between epithelial cells, which indicate the potential of these materials to enhance drug transport across intestinal tissues.

It is well known that polysaccharides of natural origin such as Aloe are capable of enhancing the intestinal absorption of co-administered drugs by means of a transient opening of the tight junctions between adjacent epithelial cells to allow for paracellular transport across the intestinal epithelium. Aloe Vera Gel Extract could decrease the transepithelial electrical resistance of intestinal epithelial cell monolayers (Caco-2), thereby indicating opening of the tight junctions between adjacent epithelial cells.

Aloe Vera Gel is also able to significantly increase the transport of the macromolecular peptide drug, insulin, across the Caco-2 cell monolayers.



ALOE VERA AS AN EXCIPIENT

The nutraceutical and functional industries endeavors to develop novel delivery systems which require excipients that fulfil specific functions. Excipients from renewable sources are attractive due to their sustainable mass production. Aloe Vera Gel in matrix systems showed good swelling properties due to Aloe Vera Gel Polysaccharide component has an excellent potential to be use as an excipient in the formulation of direct compressible sustained-release matrix type tablets.

You can add bioactive ingredients to improve and boost the effectiveness of your formula, you can even use liquid forms to add into your products.



BEFORE AND AFTER WORKOUTS

Before and during exercise, you don't want to be digesting complex substances. For the before and after exercise list is creatine, is particularly likely to be beneficial if the creatine source is consumed with insulin mimetics, such as Russian tarragon and bitter melon extract.

Another option for before or after workouts are supplements with mixture of water-soluble peptides that can quickly enter the bloodstream and get to muscle tissue. Specialty predigested protein derivatives can support both endurance and recovery as well as being supportive whether taken before or after workouts. When used before a high-intensity workout, a l-carnitine ingredient was found to reduce muscle pain and decrease muscle damage. Therefore, L-carnitine supplementation can help in the recovery process. The protective effects might be partly due to enhancement of oxygen supply to the muscle via increased blood flow.

The exercise fatigue is caused by lactic acid accumulation and muscle glycogen depletion. Research indicates that l-carnitine supplementation decreases lactic acid accumulation and spares glycogen and therefore plays a role in delaying fatigue.

Note that it "hinges on reducing inflammation, clearing built-up toxins (like lactic acid) from your muscles and circulating oxygen to help your muscles and joints recuperate from the stress of working out. To help, he suggests that one gets enough "easily digestible, alkaline-forming protein to aid with muscle repair and improve sleep to fully recover and ready yourself for another workout.



ADDITIONAL TIPS FOR *post-workout routines*

Since a lot of electrolytes may be lost during workouts, it's a good idea to supplement after one is done exercising. Mix aloe Vera juice with electrolytes, both of which need to be replaced during exercise and help maintain smooth muscle contractions and energy levels.

Last, there are some supplements well known for supporting endurance. Chia and cordyceps help on this front.



LEARN HOW TO ENERGIZE THE BODY'S CUSTOMER

The Process of Energy

The human body runs on chemical power stored in every cell by the high-energy molecule adenosine triphosphate (ATP). ATP is expended as we breathe, run and jump, and is instantaneously regenerated to keep us going. Mitochondria, a cell's powerhouse, produces over 160 kilograms of this molecule daily.

At the molecular level, ATP is just phosphate groups connected by several oxygen atoms. Each of these negatively charged oxygen molecules repel each other, creating stores of potential energy. When ATP is converted to adenosine diphosphate (ADP), one phosphate group and its corresponding oxygen is removed, releasing the tension and 30.6 kJ/mol of energy with it. This reaction produces energy for the body's processes, but it also creates oxidative stress, or free radicals. To restore energy, the body has used up, the mitochondria use fuel from food and nutrients to convert ADP back into ATP. The ATP is then ready to provide more energy.

It is helpful to understand a little about how the body makes and stores energy before addressing how to help these processes, uses the "Oxygen Odyssey" as the descriptor for this five-step process (1). These steps are very much tied to one's overall health and lifestyle. Everything from diet to lung disease to heart problems affect oxygen intake and processing, and thereby our energy level.

1. The lungs take in oxygen, which binds to hemoglobin in the blood.

2. Oxygenated blood is carried to the heart, which pumps it throughout the body. The better the heart functions, the more efficiently it can deliver oxygen.

3. The arteries carry oxygen from the heart to the tissues and cells. Flexible arteries help with circulation.

4. Next, the capillaries take over, where hemoglobin releases oxygen. Here, the enzyme 2,3 DPG facilitates this process; if not enough of the enzyme is present, oxygen isn't released. Those who don't exercise or who have high insulin levels tend to have lower 2,3 DPG levels.

5. Last, the mitochondria in cells produce energy (adenosine triphosphate or ATP) from oxygen and simple sugars. Decreased fitness, hormonal deficiencies, a poor diet, vitamin/mineral deficiencies, lacking carnitine, low coenzyme Q10 (CoQ10) levels and adrenal insufficiency all affect whether these cellular structures can perform optimally

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Having all of the right substances pre-distributed throughout the body, such as fats or creatine or CoQ10, allows efficient energy production—even in the far reaches of cells and muscles—on short notice and for sustained periods of time.

Ensuring the body has everything it needs for sufficient energy production is a combined matter of good health, a nutritious diet, regular exercise, avoiding too much stress, steering clear of certain environmental toxins and more. Since few of us are perfect in all these categories, energy-support products have an important role to play.

Aloe can be formulated with important nutrients as:

- ATP support like creatine and calcium pyruvate.
- Encouraging the burning of calories for fuel (such as L-carnitine).
- Promoting healthy sleep (including L-tryptophan, 5-HTP, and melatonin).
- Supporting energy production (several vitamins and minerals like B3 and B12).

Having a good mixture of natural substances available in our bodies to support healthy metabolism may be the most important factor in setting our energy levels.



Generating “true energy” versus creating the “sense of energy” are two entirely different matters, making quality, sustained energy requires the “right amount of building blocks” to create ATP. Plus, “one still needs to have adequate blood sugar, certain hormones like DHEA, cortisol, pregnenolone, thyroid, growth hormone and sex hormones to ‘feel good and energized.’ So, holistically, true energy arises from a truly well-nourished and balanced body.

Let’s talk a little more about how some of supplements work better in efficacy. ALOE VERA can be, by itself a of energy support, due reinforce the immune system, and content vitamins, minerals, aminoacids, enzymes, polysaccharides, or you can formulate instead with an active carrier, substitute aloe Vera with your (s)= active ingredient.

For starters, B12 can offer somewhat of a boost, depending on the delivery form. It is vital for creating red blood cells for proper metabolism, which includes energy generation; B12 “works quickly and usually provides a rapid increase in energy

Using the B-vitamins in combination with certain amino acids supports mental focus and cognition. This is different from how natural caffeine or caffeine analogs work, for instance, since they provide a quick high (and then low) in contrast.



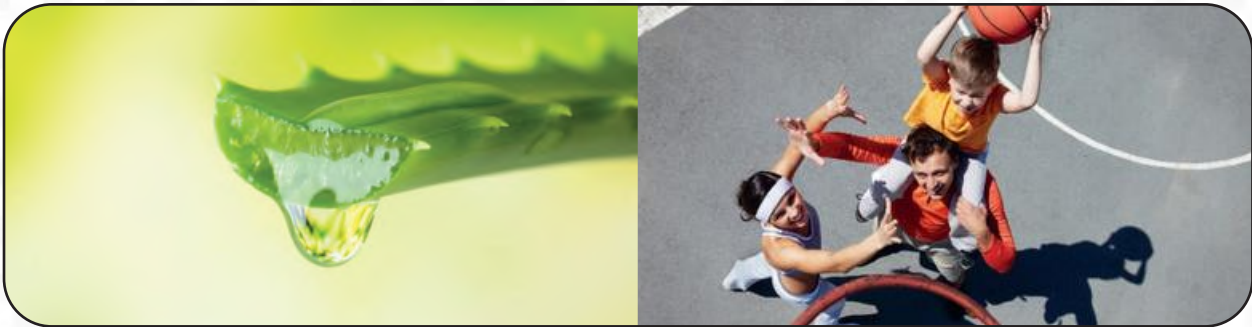
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Authentically increasing sustained energy is possible with ingredients that support or enhance the production of ATP (Short for adenosine triphosphate.). The mitochondria convert blood sugar and fat to energy in the form of ATP. Stimulating mitochondrial activity to support ATP production is one of the many roles of the B-complex vitamins. Other nutrients that contribute to this process are alpha lipoic acid, CoQ10 and carnitine.

The latter three nutrients are three big players in the energy-support category. Alpha lipoic acid converts glucose into energy, so it is necessary for energy production. CoQ10 is needed in all tissues for converting oxygen to energy. It harvests more than 75% of ATP energy from food, and thus is critical for energy production. Carnitine has a different role. In the body, it converts to an enzyme (carnitine transferase) that brings fats into the mitochondria, where it is used to make energy.



Another important supplement is ribose, which is needed for cellular energy since it gives the “spark” required for ATP production and other cellular constituents. Ribose is the starting point for the synthesis of these fundamental cellular compounds, and the availability of ribose determines the rate at which they can be made by our cells and tissues. Overall, a balanced energy supplement should provide the building blocks for ATP production or better innate energy metabolism at the Krebs Cycle (citric acid pathway).

The Krebs Cycle is a series of reactions in the body that causes certain molecules to oxidize and allow for the storage of energy in phosphate bonds (like ATP). This process, as stated previously, occurs in the mitochondria. Supporting the Krebs cycle with the proper nutrients will help “legitimate energy to occur within the body”.

ATP is only part of the story. Energy production also relies on proper nerve conduction since “there are electrical components to our bodies as well”.

An adequate store of certain minerals for positive and negative charge formation is key on this front, “as ions (cations Na⁺, K⁺, Ca⁺, Mg⁺, etc.) and anions (such as Cl⁻) are critical. It is all about keeping the body properly fueled.

There are studies in which two to three grams of mixed potassium and magnesium aspartates were given daily to those experiencing low energy and general malaise. After one or two months of use, more than 80% of the test subjects reported greater and more sustained energy as opposed to approximately 30% of the placebo subjects.

ATP Producers and Shuttlers

Several of the industry's leading energy supplements focus on bolstering this ATP production system at the cellular level. Aspartic acid is an amino acid and one of the 20 proteinogenic amino acids, i.e., the building blocks of proteins. The carboxylate anion of aspartic acid is known as aspartate. Aspartic acid is also thought to play a role as an excitatory neurotransmitter in the central nervous system. Glutamate, asparagines and glutamine are formed from their precursor, aspartic acid.

It is one of the nonessential amino acids found in many proteins and closely related to asparagine. Aspartic acid is used in medical and biochemical research, as an organic intermediate, and in various industrial applications. Aspartic acid is one of the two components of aspartame. Asparaginase is an enzyme that helps the conversion of asparagine to aspartic acid. Aspartame is composed of two amino acids, aspartic acid amino acid and phenylalanine, as the methyl ester. L-Aspartic acid plays a vital role in energy production. It is one of the components necessary to move high energy NADH molecules from the main body of a cell to its mitochondria, or primary energy-production areas. Once there, the NADH is used to generate ATP, the energy fuel that powers all the cell's activities. Besides helping with energy production, it is a major excitatory neurotransmitter.



a) Coenzyme Q10 (CoQ10)

Is naturally found in the body and is essential for ATP production. It transports energy-carrying electrons within mitochondria; a deficiency results in energy production at a less than optimal rate. CoQ10 also functions as an antioxidant. By making energy production more efficient, it can reduce the number of free radicals that are produced. In a study that sought to measure the effects of CoQ10 on mitochondria and the bioenergetics state, researchers found that participants experienced improved mitochondrial functionality, namely increased oxygen consumption, ATP synthesis and resistance to oxidative stress when taking CoQ10 as mitochondria become weak, they die off, lessening the body's capacity to produce energy.



b) Pyrroloquinoline quinone

(PQQ) not only helps deteriorating mitochondria regenerate, but it also creates new mitochondria and protects the older ones from the stresses of energy production. This is especially important in the organs that use up the most energy, like the brain or heart, because they contain the most mitochondria.

c) Magnesiumd) Vitamin B12e) Carnitine

A mineral in which many people Helps the body convert food into Acts as an ATP shuttler, facilitating

A mineral in which many people are deficient, is a crucial part of the synthesis of ATP. In fact, ATP exists primarily as a compound with magnesium, called MgATP, which creates the energy necessary to perform certain processes, such as ATP production. Not only does ATP require magnesium to be biologically active, but the incredible electrical potential of the mineral bolsters the entire nervous system. Magnesium's importance in ATP formation means that sufficient levels in the body will supply constant and even energy throughout the day

Helps the body convert food into glucose. B12 is a catalyst in the reaction that helps convert fat and carbohydrates into ATP. There is, however, debate on the efficacy of B12 supplementation for energy in the absence of deficiency (9).

Acts as an ATP shuttler, facilitating the transport of fatty acids to be metabolized for energy. Carnitine not only transports the fatty acids into the mitochondria to be oxidized, but it also helps remove toxic substances from the mitochondria to prevent accumulation. It is found mostly in the skeletal and heart muscles, the tissues that most rely on fatty acids for fuel. Researchers exploring mitochondrial dysfunction found that oral supplementation of L-Carnitine and others can significantly reduce fatigue and can also restore mitochondrial function.

f) Ribose

A sugar molecule found in the body, increases the production of ATP in cells and increases levels of ATP in muscles. Studies have shown that when supplemented with ribose, the energy produced by muscles, including the heart, can increase up to 430%

ALOE AND ANTIOXIDANTS

Aloe Vera is an excellent example of a functional food that plays a significant role in protection from oxidative stress, is helpful in smooth functioning of the body machinery. It reduces cell-damaging process during stress condition and minimizes biochemical and physiological changes in the body. Oxidative stress refers to chemical reactions in which compounds have their oxidative state changed. Some antioxidants are part of the body's natural regulating machinery while other dietary antioxidants are derived from diet sources.

On a daily basis each human cell is You get the picture, the more subjected to 10,000 plus oxidative bodyguards (antioxidants) that hits. Each hit represents damage we have; healthier we will remain (a chemical reaction) to the over time. The science of macro individual cells of the body. Such nutrition (in terms of antioxidants) damage is caused by sunlight, is to understand what foods provide x-rays, environmental toxins, us with antioxidants and antioxidant exercise, etc. The body utilizes recyclers so that we can have antioxidants to immediately more antioxidant bodyguards repair or in many cases, to actually available than oxidative hits. take the damage itself (like aMany herb and plant-based bodyguard stands in front of a energy supplements act as bullet).antioxidants and neutralize the Theoretically, if we could thus free radicals that are released deflect 100% of the oxidative hits during energy production. This received each day we could delay increases energy levels by the aging process indefinitely.minimizing oxidative stress on the system.



CREATE AN ANTIOXIDANT ALOE VERA FORMULA WITH:

a) Astaxanthin

A supplement known as an athletic enhancer, has immense antioxidant and anti-inflammatory capabilities. It reduces muscle fatigue and soreness by destroying free radicals in the mitochondria and reducing oxidative damage, endurance improved, muscle inflammation and lactic acid. It is a powerful antioxidant, with 54 times the strength of beta-carotene.

b) Spirulina

A microscopic blue-green algae, contains several antioxidant components, including phenolic compounds, phycocyanins, tocopherols and beta-carotene, which curb oxidative stress. In a study where nine moderately trained males were supplemented with 6 g of spirulina per day, the subjects' exercise performance was significantly stronger after four weeks.

c) Green tea

Contains polyphenols and catechins, which act as antioxidants. Although green tea naturally contains some caffeine, a sustained energy lift can be felt from EGCG, a catechin that not only protects cells and DNA from damage, but also has twice the antioxidant power and boosts metabolism and energy expenditure. One study found that green tea increased subjects' resting metabolic rate by 4% after drinking 90 mg three times per day (17).

d) Guarana

A seed that contains twice as much caffeine as a coffee bean, is found in many energy drinks. It also contains tannins, antioxidants that cause the caffeine to be released slowly, resulting in longer lasting, steadier energy (18).



e) Greens

Such as buckwheat or celery, are full of polyphenolic antioxidant compounds like tannins, rutin and catechin. In one study on these phytonutrients, relative amounts of phenolics in bound and free forms in various plant based foods were measured. Total antioxidant activity in the plants was relatively high, measured as 80 for broccoli and 98 for apples, compared to 56 for brown rice.



FUELING YOUR PERFORMANCE

Among the factors involved in athletic performance, it's safe to say that energy is fairly fundamental. Crucial, too, is having enough of the different kinds of energy necessary for victory. Athletes, like everybody else, need the kind that gets you out of bed in the morning. They also need sustained energy that allows them to maintain their stride in mile 26. After coming that far, no one wants to run out of fuel before reaching the finish line. What follows is a look at the way these distinctions tie in with the supplements market.

ENERGY VERSUS ENDURANCE

While there is significant overlap, some supplements are best suited to supporting one's get-up-and-go (mental alertness, focus, drive, etc.) and others supply the nutrients required to keep on going (fuel for muscles, electrolyte and adrenal balance, energy production and other factors). But first, a word of caution about how energy obtained. Consumers should beware of sugary snack foods that quickly boost blood sugar levels, only to cause it to drop shortly thereafter because of the strong insulin response. In addition, people should be careful with supplements containing large amounts of stimulants like caffeine without other compounds that provide nutritional value.

Short-term energy is dependent upon sufficient glucose and glycogen stores, and sufficient adrenal medulla function. Indeed, there is a large hormonal component to rapid aerobic output, involves a balance between the adrenal medullas release of norepinephrine and adrenaline, particularly the latter.



The basis of many sports beverages, which also tend to utilize amino acids, botanicals as aloe and other nutrients to enhance energy metabolism sources of caffeine include coffee, various types of tea and guarana herb, taurine and L-theanine and several green tea extracts, specifically, can enhance energy and metabolism.

Aloe contains macro and micro nutrients such as water, carbohydrates, proteins, lipids/fats, vitamins, minerals, trace minerals and electrolytes, enzymes, and accessory nutrients such phenolics and antioxidants, support a healthy life in humans and in animals. Studies show that adequate dietary macro and micro nutrient intake promotes health and wellbeing and slows the onset and progression of disease. However, most diets are deficient in these important nutrients due to their general lack of convenient availability in preferable forms.



IMPROVE THE NUTRITIONAL QUALITY OF YOUR TARGET CUSTOMERS WITH ALOE VERA

Aloe nutrient delivery system- The nutritional health and well-being of humans are entirely dependent on plant foods either directly or indirectly when plants are consumed by animals. Plant foods provide almost all essential vitamins and minerals and a number of other health-promoting phytochemicals. Humans require a diverse, well-balanced diet containing a complex mixture of both macronutrients and micronutrients in order to maintain optimal health and good appearance. Macronutrients—carbohydrates, lipids, and proteins (amino acids) — make up the bulk of foodstuff and are used primarily as an energy supply.

Micronutrients are organic or Nonessential micronutrients encompass facilitates a good chemical inorganic compounds present in a vast group of unique organic reaction but remains unchanged. small amounts and are not used phytochemicals that are not Within Nature, numerous for energy, but are nonetheless strictly required in the diet, but complexes of chemicals such as needed for good health. Essential when present at sufficient phytonutrients exist that assist micronutrients in the human diet levels are linked to the numerous chemical reactions to include 17 minerals and 13 promotion of good health. take place in the body that do not vitamins and are required at Most everyone understands take place when the individual minimum levels to alleviate nutritional the concept of a catalyst, which molecules are isolated from each disorders, Aloe Vera has it! is that the presence of one element other.



ALOE VERA ACTS AS A PHYSIOLOGICAL CARRIER FOR MANY ACTIVE BIOLOGICAL AGENTS

When you get Aloe Vera shots you are drinking small doses of bioactive ingredients, such as vitamins, minerals, aminoacids, enzymes, proteins, organic acids, essential fatty acids, polysaccharides, lignins, saponins, chromones, all of them GOOD for your client's health. This helps their body day by day, to get nutrition for your cell and body systems, acts synergistic way. Nutrition is key, and a diet rich in nutrients, micronutrients, and antioxidants maintains the body's ability to fight disease and repair itself. Aloe Vera makes a great addition to a healthy diet/defense regimen and has the added bonus of easing cold and flu symptoms and speeding recovery.

Nutrients are a chemical substance that comes from the foods you eat. The energy you need for the metabolic processes in your body and for maintaining a constant internal environment comes from these nutrients. So if you think about all the basic reactions going on in your body to keep you breathing, your heart beating, your brain working and allowing you to move about, they all derive their energy from nutrients.

ALOE VERA IS A PLANT RICH IN NUTRIENTS

The gel in Aloe Vera contains various nutritional elements that are very useful to our body and helps to keep our body nourished. Our body needs both macro and micro nutrients. Aloe Vera contains almost all the micro nutrients that our body needs. Aloe Vera is a very nutritional plant. Aloe Vera can be of used for your targeted formulas.



Supplements that may be more beneficial for athletic activities that require endurance, Aloe with medium-chain triglycerides (MCTs) they contain, are a good place to start. Aloe with medium-chain triglycerides (MCTs) are metabolized differently than the more commonly ingested long-chain fatty acids. Medium-chain triglycerides (MCTs) do not have to be processed by pancreatic digestive enzymes to be absorbed. They move directly to the liver and other tissues. Aloe with medium-chain triglycerides (MCTs) is a preferred source of energy in cell mitochondria, the organelles that generate biochemical energy resources for the cell. Aloe with medium-chain triglycerides (MCTs) rapidly enter mitochondria, where they are broken down as part of thermogenesis, or heat energy production.

To replace the overstimulation and subsequent “crash” that stimulants are known for with stamina and endurance, adaptogenic herbs as Aloe Vera, Adaptogen modulate and normalize numerous body responses to fight fatigue, both physical and mental; to create lasting energy levels. Much of this modulation has to do with adrenal support. Addressing more than just the adrenal cortex (which controls cortisol levels in the body) is important. This means aiding the amino acid pathways of phenylalanine and tyrosine, which in turn support the production of dopamine, norepinephrine and epinephrine, all essential for peak athletic performance.

Aloe Vera and its synergistic action, the body receives what it needs to work properly. Supplement formulations derive their impact from the synergy of ALOE VERA, Aloe can improve your energy shots. The idea is to safely nourish and support the adrenal glands without overstimulating them.

This is an important concept when developing dietary supplements intended to stimulate and maintain energy levels.

There are, of course, many other nutrients essential for building and maintaining endurance, some of which are better known than others: • Aloe with *Coleus forskohlii*, support the production of muscle tissue, while aiding the breakdown of adipose tissue, a process that produces energy.

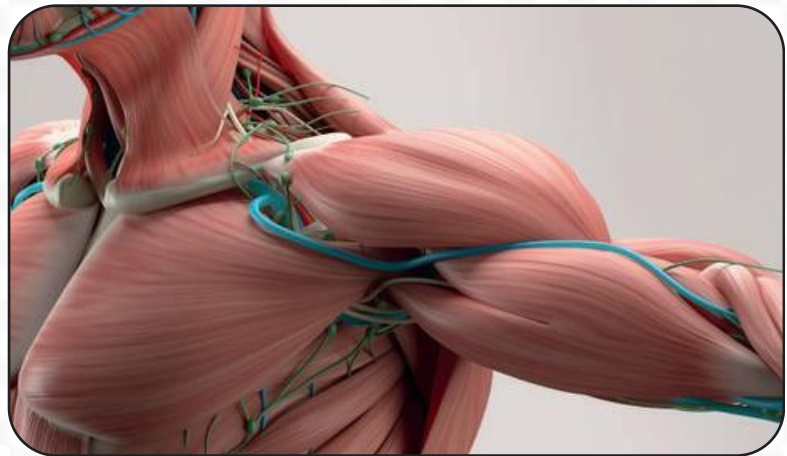
FORMATION AND PROTECTION OF LEAN MUSCLE TISSUE IN HUMANS

Aloe Vera can help to deliver active ingredients for promoting the formation and protection of human lean muscle tissue, and enhancing the human body's use and absorption of nutrients, reduction of body fat, weight loss, absorption of nutrients and antioxidant, provides thermogenic properties, also ingesting the nutritional formula immediately prior to sleeping allows for optimal healing and repair of the body.

Other additional beneficial properties including aiding in the healing and/or repair of human body tissue, treatment of various human ailments and/or prevention or amelioration of the ill effects of aging on the human body.

Include in your formula formulation of Aloe Vera with hydrolyzed collagen, garcinia cambogia tea, fenugreek tea, coleus forskohli tea, chromium polynicotinate, chromium picolinate, chromium cruciferate, conjugated linoleic acid, fiber and natural amino acids effectively assists in the reduction of body fat, enhancement of nutrient absorption, and formation and protection of lean muscle tissue. The composition may also possess antioxidant properties.

Collagen is a protein which can be found in skin, bones, and lean muscle tissue. Collagen assists the body in building lean muscle tissue. Preferably, the collagen is better in a hydrolyzed form. The aloe dietary supplement can be produced by combining at least one of glycerin, collagen, hydrolyzed in form, conjugated linoleic acid, xanthan gum, aloe gel powder, L-lysine, L-ornithine, L-arginine, L-carnitine, trimethylglycine, L-glycine, stevia, garcinia cambogia tea, fenugreek tea, coleus forskohli tea, a chromium mixture, citric acid, sodium benzoate, potassium sorbate, soluble dietary fiber, natural.



The amino acid can be anyone of known amino acid in the industry of health, the amino acid can be glycine, lysine, arginine, glutamine. Leucine, isoleucine, valine and glutamine, and a whey protein component (whey protein and/or decomposition product of whey protein) identified for muscular fatigue comprising. At least one of a whey protein isolate (WPI), a whey protein concentrate (WPC), beta-lactoglobulin, and alpha-lactalbumin is used as the whey protein.

Nutritional ingredients for enhancing lean muscle stimulus, growth, strength and recovery, supporting endurance, strength, performance, size and stamina in individuals, Mixing Aloe Vera with (A) amino acids(s) as isoleucine, leucine, lysine, L-aspartic acid, methionine, phenylalanine, tryptophan, valine, arginine, histidine, citrulline, omithine or proline and/or peptide as imidazole peptides, especially anserine, carnosine and balenine, and creatine.

ALOE VERA SPORT NUTRITION

Citrulline malate is another anti-fatigue substance that has been described to have a protective effect against acidosis and ammonia poisoning, which may explain its anti-fatigue properties. Activity of citrulline malate on acid-base balance and blood ammonia and amino acid levels.

Aloe Nourishing drinks that have been widely used conventionally for recovery from fatigue can contain, aloe with various kinds of vitamins, caffeine, taurine, Asian ginseng, royal jelly and propolis.

Proper nutrition is an important element in any exercise regimen, and more and more people are turning toward supplements and protein to boost their workouts. Nutritional supplements, sports and energy drinks, nutrition bars, low-carb foods and weight-loss supplements and for good reason. Everyone needs the same nutrients, whether or not they exercise, but those who are physically active will require higher calorie and fluid amounts, about 15% of which should come from protein. And, when they need more protein and other nutrients, many individuals will turn to nutrition stores to find supplements that will help them with their fitness routines.

People on all rungs of the exercise ladder may come into your store for nutrition advice about what will best suit their fitness regimens. Let us start with the novice who is just starting to exercise or someone who wants to keep it light. They can stick to nutrition bars that have protein, vitamins and minerals.



Many people who have preexisting conditions like chronic fatigue syndrome or fibromyalgia can have difficulties with exercise because of pain or lack of energy. Mix Aloe Vera with D-ribose, a naturally occurring five-carbon carbohydrate, increasing their energy, mental clarity, sleep quality and overall well-being while decreasing pain. Ribose could potentially aid in maintaining or lowering extra-cellular adenosine concentrations, benefitting the flux of intracellular calcium, supporting intracellular energy production and potentially lessening the perceived “crash” felt by many. Every cell requires adequate levels of energy to maintain its integrity and function. Caffeine has the potential to task this energy equilibrium. Ribose along with caffeine may be the perfect substrate to aid in the potential intracellular energy demand and reduce unpleasant side effects of caffeine, while still preserving the desired benefits of this stimulant consumed daily by many.

Aloe contains Glutamine is one of the non-essential amino acids in humans. Although the body can produce it, immune system weaknesses and nerve problems can occur during times of high demand. Our body uses L-glutamine to create proteins, so-called amino sugars, and to support the production of the super-antioxidant glutathione.

The body also uses L-glutamine to increase water retention in muscle cells, help signaling cell growth and to start intensifying production of protein and glycogen. Glutamine is therefore a very popular supplement with strength athletes. Among the free amino acids in human blood, L-glutamine is the most abundant at around 20% of the total. It also exists in a peptide-bonded state, which makes it chemically very stable.

L-glutamine enables the production of the natural anti-oxidant glutathione, a known preventer of cell damage.

As if that were not enough, this amino acid regulates the stability of acids and bases in the body, keeping proteins active, and through this ensures the correct execution of metabolic processes. For overweight individuals, Aloe with DHEA supplements might be a good recommendation, also natural dietary supplements containing Aloe & bitter orange or 5-HTP can also be used to help with weight management.



Bitter orange may speed up the heart rate and raise blood pressure in some people, so it may not be appropriate for those with heart conditions. 5-HTP raises serotonin levels, which helps regulate mood and behavior and studies have shown that it curbs the appetite.

People who are older can also take specific supplements to help them with their workouts, like aloe with creatine. This monohydrate of the skeletal muscle was found to enhance the strength-training program of 44 adults ages 55–84 years and when taken creatine, improved blood lipids and self-reported vigor and even reduced body fat. Traditionally, creatine has been used by body builders to increase strength and enhance weight-lifting.

While omega-3s are known to lower the risk of certain heart conditions and aid in brain function, they can also slow down bone loss in postmenopausal women along with moderate-intensity weight-bearing exercise. Consuming 1,000 mg of omega-3 for 16 weeks along with aerobic exercise increased estrogen, boosted calcitonin (a hormone that metabolizes calcium and phosphorus) and slightly decreased parathyroid hormone. Additional supplements that can help beginners start their exercise routine aloe with iron and calcium. Those with iron deficiencies can tire quickly and taking from 10 to 15 milligrams of iron a day may improve performance in athletes who are truly iron deficient. Calcium supports strong bones and proper muscle function, thus preventing damage from the strain of exercise.

Once the above is in order, the athlete should consider dietary supplements.

1. Aloe with Multivitamin/multimineral: This may not directly influence performance, but may be associated with maintenance of health.
2. Aloe with Essential fatty acids—omegas-3 and -6: These are for overall health and reduced inflammation.
3. Aloe and Antioxidants: Many are available with science to support their use; a good blend may be best, but simply the use of vitamins C and E has been reported to provide benefits in many studies.
4. Aloe and Vitamin D: Many new studies support the use of vitamin D for overall human health—getting 30 minutes of sunlight per day will not get the job done, especially considering the regular use of sunscreens. Just look at the scientific evidence.
5. Aloe with Carbohydrate powder: Use of carbohydrate has been shown in many studies to maintain immunity and to improve endurance performance.
6. Aloe with Creatine: Primarily used to improve power performance (e.g., sprinting, jumping and weightlifting). Creatine monohydrate is very inexpensive and works great for most individuals. There is little to no evidence that other forms of creatine are better than monohydrate in terms of muscular performance and hypertrophy. Most of the creatine battles are fueled by pure hype and marketing.

ALOE VERA SPORT NUTRITION

8. Aloe with Betaine: Relatively new in sport nutrition, but a couple of recent studies suggest promise.
9. Aloe with Essential amino acids: Only six grams consumed before resistance exercise favorably impact protein turnover during the post-exercise period; 35 grams of carbohydrate taken with the amino acids may be best.
10. Aloe with Carnitine is an essential nutrient that oxidizes fatty acid and subsequently, produces energy, according to the National Institute of Health's Office of Dietary Supplements, and it is included in dietary supplements "as an aid to weight loss, to improve exercise performance, and to enhance a sense of well-being". L carnitine indicated to optimize performance, decreases lactic acid accumulation and prevents muscle glycogen depletion, which minimizes fatigue during exercise and reduces muscle pain and damage. Aloe with L- carnitine supplementation may improve muscle recovery after acute physical exertion, less muscle tissue damage occurred



11. Aloe with Adenosine triphosphate (ATP) is a compound that provides a primary source of energy to power muscular activity, and can be a helpful way for athletes to maintain their energy throughout physical activity. The Natural Health Research Institute recommends that for maximum physical endurance, dietary supplements that include creatine, which is an ATP initiator and an ATP sustainer, like ribose, can be taken to improve athletic performance.
12. Additionally, aloe with grape extract can improve the antioxidative status and oxidative stress and physical performance in elite athletes. A study published in the Journal of Sports Science and Medicine found that after one month of taking grape extract and performing effort tests afterward, 20 athletes had better total physical performance, improved explosive power and less fatigue. The extract also reduced the plasmatic creatine phosphokinase concentration and increased hemoglobin levels, which suggests that it can protect against cell damage during exercise.
13. Aloe with Electrolytes, essential for serious athletes to take, but are not necessary for less intense exercise. The lack of electrolytes affect fluid balance in the body and are necessary for our nerves and muscles to function, and should be replenished by those working out for more than 60 minutes at a time, since sweat is about 99% water and 1% electrolytes. It is recommended that electrolyte-enriched drinks with 15 to 18 grams of carbohydrates per eight fluid ounces be used, since too many carbohydrates may cause dehydration, cramps, nausea and diarrhea.

ALOE VERA SPORT NUTRITION

Other mixtures with aloe to offer your consumers for serious athletes will benefit from all of the aforementioned supplements and proteins, but retailers can also suggest they look into others for energy, calories, fluids and endurance. The pros should consider take the basic supplements such as aloe with

gPLC, aloe with HMB, aloe with BCAAs, aloe with l-glutamine, aloe with CoQ10, aloe with Pycnogenol (French maritime pine bark), aloe with 5-HTP and a potent multivitamin. Last, aloe with energy ingredients as taurine to get a little kick during workouts.



POST-EXERCISE RECOVERY



After a workout, no matter how strenuous, a person's body needs to repair itself. Aloe with Milk protein is one way to address muscle soreness. A study followed 20 highly trained distance runners for six months and found that 70% of those taking a milk protein in the form of a powder reported an overall improvement in recovery time between training and racing, compared with 20% who took a control milk.

Blood samples showed that creatine kinase, an enzymatic marker of muscle breakdown, decreased significantly overtime and reduced muscle damage as well as recovery time. Colostrum, a supplement from milk, helps athletes minimize their susceptibility to infections, shorten recovery time and accelerate the healing of injuries.

ALOE WITH BRANCHED-CHAINED AMINO ACIDS have also been found to allow athletes to recover quicker after a workout since they alleviate central fatigue. Formulate aloe with amino acid, glutamine, used by the immune system to maintain optimal performance, is important for body builders since it reduces the amount of muscle deterioration.

THE POWER BEHIND ALOE WITH PROTEIN

When many people think of sports nutrition, one of the first things they think of is protein. Protein's popularity largely stems from the idea that in conjunction with exercise, it is the key to building muscle. While this certainly isn't false, many people in the sports nutrition industry believe that protein is only one part of a larger muscle-building equation.

Aloe Protein blend as macronutrient provides for the structural and functional components of muscle tissue, adding protein into the system during times of stress spares the muscle tissue already in existence, and allocates elements needed to synthesize new muscle tissue. One aspect of Aloe Protein Blend that is more universally agreed upon is that it cannot work alone, add other critical components necessary to maximize muscle building.

One of the most critical is β -hydroxy-beta methylbutyrate (HMB). A metabolite of the BCAA leucine, HMB contributes to muscle building by helping to prevent protein breakdown. Minimizing the amount of protein breakdown allows newer muscle to grow faster, improving strength and body composition.

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ALOE VERA SPORT NUTRITION

Aloe Vera acts as synergist activity maximizing the relationship between it and protein, other option to mix Aloe Vera for protein supplements are BCAAs like leucine, isoleucine and valine to stimulate protein synthesis during exercise.

One major thing to remember is that several vitamins and minerals play key roles in repairing and building muscle proteins in response to training. Consistent intense training may also increase micronutrient requirements by increasing metabolism, degradation rates or bodily losses of these key nutrients. Deficiencies in these minerals can be exacerbated by extremely intense workouts or in people who were lacking certain minerals to begin with. For these reasons that people looking to build muscle also take a powerful multivitamin with their protein. Aloe mixed with B vitamins, vitamin D, zinc and magnesium are some of the main vitamins.



INCLUDE ALOE VERA IN YOUR FORMULA OF PROTEIN POWDER AND INCREASE THE BENEFIT FOR YOUR CONSUMER

ALOE ENZYMES

Aloe Vera can provide some of the most important vegetable enzymes, basics of human nutrition. Important nutrients and phytochemicals found in plants are absorbed more easily by our bodies -- sometimes within minutes --without too much effort on the part of the digestive system. As well, more of the nutrients are absorbed.

Enzymes are endogenous catalysts which enable, accelerate or prevent chemical processes. The enzymes contained in the Aloe Vera gel help with digestion and in absorbing the sugars, proteins and lipids of our daily food intake. Leading scientists agree that a portion of the enzymes present in Aloe Vera gel can destroy free radicals.

Enzymes break down proteins, carbohydrates and fats turning it into fuel increasing cell functions. For instance, bradykinase reduces inflammation and stimulates the immune system. Lipase is a digestive enzyme with a fat-splitting effect. Phosphokinase acts as an energy transmitter to muscle cells. Naturally, the list of Aloe Vera properties does not leave out the many important enzymes found within the leaf gel of the plant. The main enzymes found in Aloe Vera are amylase, bradykinase, catalase, cellulase, lipase, oxidase, alkaline phosphatase, proteolytiase, creatine phosphokinase and carboxypeptidase.

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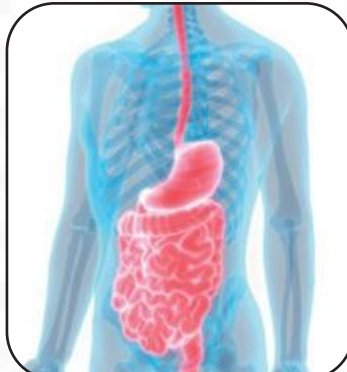
ALOE VERA SPORT NUTRITION

Aloe is rich in enzymes. Enzymes spark the hundreds of thousands of chemical reactions that occur throughout the body; enzymes are essential for digestion and absorption of food, for conversion of food into body tissue, and for the production of energy at the cellular level. In fact, enzymes are essential for most of the building and rebuilding that goes on in the body every day.

Enzymes act as biochemical catalysts that break down the proteins we eat into amino acids. The enzymes turn the food we eat into fuel for every cell in our body, enabling the cells to function and work efficiently. The main enzymes

found in Aloe Vera include Amylase (breaks down sugars and starches), Bradykinase (stimulates immune system, analgesic, anti-inflammatory), Catalase (prevents accumulation of water in the body), Cellulase (aids digestion - cellulose), Lipase (aids digestion - fats), Oxidase, Alkaline Phosphatase, Proteolytiase (hydrolyses proteins into their constituent elements), Creatine Phosphokinase (aids metabolism), and Carboxypeptidase. The next thing we need to ask ourselves is what fuels the enzymes? The key is the vitamins and minerals we take in. For instance, if we lack in zinc and/or Vitamin B6, our body will not be able to break

down or use protein. Because of the healing properties of Aloe Vera and its synergistic action, the body receives what it needs to work properly. Aloe Vera, an anti-oxidant rich plant, contains vitamins such as A, C, and E plus the minerals, zinc, and selenium. Anti-oxidants help boost the immune system and combat free radicals in the body. Offer Aloe Vera products for your customer to balance their lack of nutrients.



IMPORTANCE OF ENZYMES

Enzymes are the sparks that start the essential chemical reactions our bodies need to live. They are necessary for digesting food, for stimulating the brain, for providing cellular energy, and for repairing all tissues, organs, and cells, all living organisms, could be regarded as an orderly, integrated succession of enzyme reactions. Humans are given a limited supply of enzyme energy at birth, and that it is up to us to replenish our supply of enzymes to ensure that their vital jobs get done. Aloe Vera is one of natural source to replenish your health.

WHY ARE ENZYMES IMPORTANT?

Enzymes are proteins that control the speed of chemical reactions in your body. Without enzymes, these reactions would take place too slowly to keep you alive. Some enzymes, like the ones in your gut, break down large molecules into smaller ones. Others, like the enzymes that make DNA, use small molecules to build up large complex ones. Enzymes also help cells to communicate with each other, keeping cell growth, life and death under control. Enzymes are also used to make or break biomolecules needed for cell growth and maintenance, are also a penetration factor favoring the rapid absorption of certain substances, accelerating processes such as wound healing, coagulation, cell regeneration.... The enzymes can be found in all organs of the body. Your body needs them.

ALOE VERA SPORT NUTRITION

Enzymes are also responsible for numerous other functions, which include the storage and release of energy, the course of reproduction, the processes of respiration, and vision:



- Boosting the Body's Primary Antioxidant Defense
- Overall human health, physical rejuvenation and anti-aging.
- Acts as a Natural Preservative and Probiotic Support
- May Have Natural Activity Against Harmful Organisms
- Resistant to Bacteria
- Natural Cleansing Properties
- Natural Immune Booster
- May Help Lower Autoimmune Responses
- Resistant to Swelling and Redness
- Compromised Health Support
- Help reduce colds, flu and other respiratory infections.
- Lessens Aging Effects
- Helps keep pancreatic enzymes at optimal levels as we age
- Helps boost immune function by increasing enzyme secretions, reduction in abdominal pain, bloating, vomiting, nausea, heartburn, gas, and loss of appetite.
- Boosts absorption of vitamins and minerals from food
- Helps us better biosynthesize the vitamins A, D, E and K.
- Aids in fat digestion and weight control
- Could help reduce lipid malabsorption and return fat digestion to optimal levels.
- Powerful Antioxidant Support
- Create a speedy reaction against hydrogen peroxide free radicals, turning them into water and oxygen.) • Catalase May Increase Lifespan
- Fat Reduction and increase in muscle strength.
- Helps Prevent DNA Damage
- Aiding in the hydrolysis of cellulose into energy-sustaining blood sugar that may help maintain optimal blood sugar levels
- Supporting cell membranes to keep them healthy from free radicals, toxic chemicals, and other entities that are harmful to cell membranes.
- Aid in mediation of biofilm formation from cellulose produced by many types of pathogens.
- Breaking down the polysaccharides of microbial biofilms.
- Participates in the detoxification and induces protein modification, oxidative stress, and apoptosis.
- Mediate and inform the inflammatory processes
- Helps to prevent genetic vulnerability to anxiety and depression, Anxiety, Depression, Autism Schizophrenia, Restless Legs Syndrome
- Glucose Transformation

ALOE VERA SPORT NUTRITION

For muscle-building athletes who are also trying to stay lean, Aloe with thermogenics may help keep fat away from the muscle. One thermogenic supplement is Aloe and bitter orange, which is known for helping burn off fat. Another well-known thermogenic is Aloe with DHEA, which is sometimes also known as 7-Keto. DHEA is also known as a metabolism booster and fat burner, as well as an aid in fighting exercise-induced muscle damage. It helps activate three enzymes that affect metabolism.

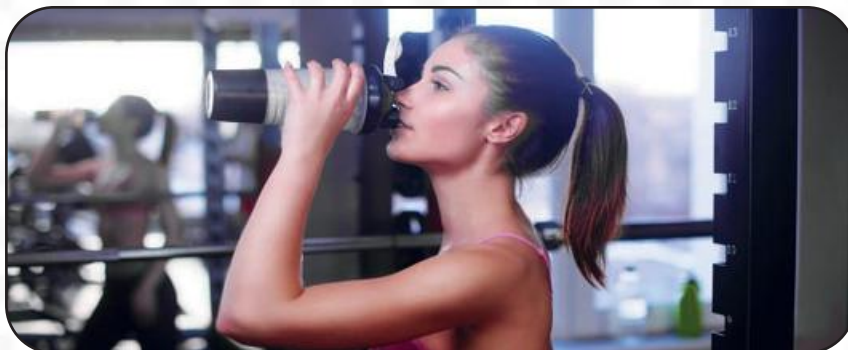


Aloe + Carbohydrates, one hour or less prior to a workout due to the potential to induce hyperinsulinemia (i.e., increase in plasma insulin), which lowers blood glucose and can potentially interfere with athletic performance by causing fatigue. For muscle builders, another pre-workout goal should be making sure adequate amino acids and Aloe Vera are available to promote muscle synthesis during the proper time window.



What is ideal for intra-workout nutrition hinges somewhat on the timespan of the workout, as the demand for a 20-minute workout is different than a 60-minute one, but there is a general set of nutritional and practical needs that should be addressed. An intra-workout product that doesn't hydrate and isn't easy to consume/mix and provide stamina isn't a great idea. Aloe Vera juice electrolytes and beta-alanine fulfill this aim well. For longer workouts, functional carbohydrates once again appear as a viable source of energy, as well as aloe with medium-chain triglycerides, maltodextrin and amylopectin as sources for some of these vital carbohydrates.

While traditionally, Aloe and protein is a post-workout supplement, it may have some usefulness in the middle stage as well, small amounts of protein, when added to aloe carbohydrate-containing drinks, can further boost endurance, something very valuable for longer workouts. However, these amounts must remain small, cramps, sore stomach and excessive flatulence as consequences for consuming too much protein mid-workout. While pre- and intra- workout nutrition varies by the duration and intensity of the workout, post-workout nutrition is more universal. Aloe enzymes aids in digestion of protein formula. While formulating your active ingredients with Aloe Vera, consider the three R's concept: replenishment, rebuilding and refreshment, different stages, there are high interest in recovery, and this universality is possibly part of the reason why. Proper post-workout nutrition enables the participant to recover faster and minimize muscle stiffness and soreness. The 30–60-minute period after a workout also serves a vital window of opportunity where cells are especially open to absorbing nutrients.



ALOE VERA SPORT NUTRITION

Aloe naturally has antioxidant activity, also emphasizes the role antioxidants play in recovery. High oxygen consumption is involved during sporting activities or strenuous exercises. This increased consumption of oxygen leads to elevated free radical production. Free radical buildup can interrupt nutrient delivery and interfere with muscle contraction, necessitating antioxidants to reduce the buildup.

One ingredient that can mix with Aloe Vera is tocotrienol, a member of the vitamin E family scientifically proven to be a powerful antioxidant. Other premixes in sport drink for recovery, is mixing aloe with magnesium and potassium, minerals are involved in the contraction and relaxation of skeletal, smooth and cardiac muscle, and adding these to a post-workout routine can help reduce cramps.

Other ingredients as creatine, an organic acid that traditionally supplies energy to muscles, as something useful both before and after a workout for providing energy, particularly after strenuous bursts of activity like sprints or power moves.



ALOE VERA APPLIED TOPICALLY *for sport injuries*

Although there is a high interest in transdermal drug delivery, the poor penetration of drugs into the skin and low permeation across the skin severely hamper the use of this route of drug administration. Techniques for improving the transdermal delivery of drugs are based on the use of chemical penetration enhancers, novel vehicle systems and physical enhancement strategies such as iontophoresis, sonophoresis, ultrasound, microneedles, and velocity based techniques and electroporation.

Aloe Vera Gel increased the in vitro skin penetration wounds depending on their molecular weights, with an apparent inverse correlation between enhancement ratio and molecular weight of the compound. This penetration enhancement effect of the Aloe Gel was explained by lignine a probable pull effect of complexes formed between the compound and the enhancing agent within the Aloe Gel. Some constituents of the Aloe Vera Gel itself also penetrated the skin and this was interestingly dependent on the molecular weight of the co-applied compounds.



The higher the molecular weight compounds. Similar to the discussion of the co-applied compound, the for intestinal drug absorption less of the gel components were enhancement, Aloe Vera Gel transported across the skin. This could potentially be used as a was explained by the probable penetration enhancement agent displacement of Aloe Vera for the transdermal delivery of components from the penetration drugs if proven to be effective and pathways and thereby it inhibits safe. permeation of the gel components more effectively than the smaller

ALOE VERA SPORT NUTRITION

The Aloe lignins are the responsible that allow Aloe Vera gel to penetrate deep into the tissues of the skin, through all seven layers. This is especially of importance when trying to heal skin conditions. Lignins, is the major structural material of cellulose content that allows for penetrative properties. Aloe Vera can soak into the skin up to seven layers deep. Lignins penetrate the toughened areas of the skin being beneficial for skin problems. Ligin – This cellulose substance is found in the gel has no known medical properties except it possesses the property of penetrating the human skin. Lignin, an inert substance, when included in topical preparations, enhances penetrative effect of the other ingredients into skin. Lignins penetrate the toughened areas of the skin proving great relief for sport injuries, reducing inflammation, assist with pain relief, and promote the healing of cuts and grazes.

Aloe help a rapid healing of wounds, cuts, abrasions, and burns (including so-called “turf” burns caused by falling or skidding on the artificial surfaces of football pitches or tennis courts). They also confirm that wounds treated topically with Aloe Vera tend to heal without scarring, and without the production of “proud flesh” at the wound site. Aloe also protects wounds against infection (it is naturally anti-bacterial, anti-viral and anti-fungal), which can otherwise be a major problem, significantly slowing down the healing rate.

Additionally, Aloe Vera gel can be used topically on strained muscles to provide relief. It can be incorporated into the daily massage routine of sports and other people who take part in strenuous physical activities. Several studies have found that the anti-inflammatory ingredients contained in Aloe Vera can benefit various chronic and other inflammatory conditions like muscle inflammation (myositis), bursitis, tendonitis – all of which cause strained muscles and joints.



Combine Aloe Vera for topical application with topical ingredients:

- Aloe & MSM (methyl-sulfonyl-methane) cream. It is an excellent anti-inflammatory cream that is effective for treating strained muscles. MSM (methyl-sulfonyl-methane) has anti-inflammatory and an excellent conditioning and healing properties. Sulphur is the fourth most abundant mineral in the body, found in every cell, and the body uses MSM to create new healthy cells. The Aloe MSM cream can be used on its own where joints are inflamed and swollen, or muscles are strained and sore - in the short term it can give instant relief from acute pain, and in the long term it is excellent for relieving stiffness and soreness from chronic joint conditions or old injuries. MSM is a muscle relaxant. This is an important and often overlooked benefit of MSM. Many chronic pains are aggravated by chronic muscle tension in the body.

ALOE VERA SPORT NUTRITION

- Aloe Vera Heat Rub Cream (cold/hot) combines the soothing and healing properties of Aloe Vera gel for healing and pain relieving properties, ideal to be applied on muscles before a work out to warm them and after a work out to provide relief to sore, strained muscles. Add menthol, Arnica, Eucalyptus or capsaicin in cream base. Acute and Chronic - tendonitis, joint and muscle pain. Where heat is desirable. Also excellent as warm-up rub before training & competition.
- Aloe Vera with Hyaluronic acid(HA), chondroitin and glucosamin, moisturizing and lubricating properties. A replenishes this natural lubricant, reviving your joints to promote proper joint function. All this combines to make it one of the most powerful nutritional joint and skin moisturizing supplements on the market. Acute - sprains, strains, bruising, cramp, swelling, soreness; painful joints, muscles or tendons; skin irritation or inflammation.



ALOE HYDRATION

Aloe Vera is highly recommended for hydration, because its contents of polysaccharides, vitamins, minerals, aminoacids, but most important thing to deliver those, is pH 4.0 to 5.0, that allows an easy absorption in the body system and work together. Do not use simple Deionized water in your formula, use Aloe Vera juice for intra- and post-workout choices is sports drinks, Aloe Liquid or gel sports nutrition products are the easiest to consume mid-workout because the body is in 'fight or flight' mode with reduced digestive capacity, not only do sports drinks come in an ideal delivery system for the intra- and post-workout stage, but they also consolidate several necessary functions, one of which is hydration.

Maintaining proper hydration at all workout stages by replenishing fluids promotes health, safety and optimal physical performance of individuals participating in regular physical activity. Sports drinks also provide carbohydrates to stave off fatigue during a workout, and replenish electrolytes, which are vital minerals like sodium and potassium that are lost through sweating. These electrolytes are some of the most important components of sports drinks, not replenishing them can potentially cause muscle weakness, cramping and dehydration.

Replacing electrolyte minerals with carbohydrates and easily assimilated protein benefits amino acid uptake into muscle, helping to prevent fatigue. Electrolyte balance is important, it helps to pay attention to more than just the "big" electrolytes like potassium and sodium. Replenishing chloride, calcium, magnesium, iodine and other trace minerals lost in sweat will help out athletes with performance. supporting the 'bio-electrical' aspects of cellular action potential allows skeletal and cardiac muscles as well as neurological performance to be optimized.



ALOE VERA SPORT NUTRITION

Many of these options, as well as others, will benefit short-term energy and long-term endurance and wellbeing simultaneously, this points to iron as an overlooked nutrient, especially for female athletes. While most athletes understand the importance of iron for transporting oxygen throughout their system, evidence still shows that many female recreational athletes such as runners have low iron levels. If the oxygen demands of muscles aren't being met for this or any reason, it could harm both short- and long-duration energy.



Be creative in your delivery system for you customers. Offer a formula with aloe in flakes powder, the most quickly dilution powder form, apply in sachets, concentrated, aloe liquid add-ins containing electrolytes, and when mixed with water, these can fulfill a sports drink's function with minimal additives.

Mix and create new individual aloe & hydrocolloids and synergistic hydrocolloid solutions are key ways to add variability while still making sure that all the essential nutrients are present and bioavailable, especially for fortified beverages. Some of these blends most prevent sedimentation of ingredients like minerals and cocoa powder; include an emulsifying high-oil loads while minimally altering beverage viscosity. And add nutritionally fortified oils, such as omega-3s, while still producing a stable beverage.



Aloe contains Proline, also known as L-proline, is an amino acid. It is non-essential because it can be synthesized by the body through the breakdown of L-glutamate; another amino acid. Protein is broken down into amino acids, or building blocks. If you consume an adequate amount of protein in your sport diet, your body will have the right amount of amino acids it needs to produce proline, an important compound responsible for tissue repair, collagen formation, arteriosclerosis prevention and blood pressure maintenance.



Collagen is a smooth and flexible tissue that covers and holds bones together, like glue. It is the main structural protein found throughout the body. It acts as a shock absorber and reduces friction. It helps heal cartilage and cushion joints. Proline aids the body in breaking down proteins for use in healthy cells. In conjunction with lysine, another amino acid, proline is a precursor for hydroxyproline and hydroxylysine. The body uses hydroxyproline to make collagen, tendons, ligaments and heart muscle. Collagen contains approximately 15 percent proline. For this reason, adequate proline is beneficial for the treatment of conditions such as osteoarthritis, soft tissue sprains and chronic back pain. Formulate with aloe your active ingredient as carrier, improve the absorption of your formula in benefit of your client, formulating with Aloe Vera as vehicle and bio-enhancer.

ALOE VERA SPORT NUTRITION

Another natural amino acid in Aloe Vera is Alanine, or L-alanine, is an amino acid that helps the body convert the simple sugar glucose into energy and eliminate excess toxins from the liver. Amino acids are the building blocks of protein, and are key to building strong, healthy muscles—alanine has been shown to help protect cells from being damaged during intense aerobic activity, when the body cannibalizes muscle protein to help produce energy.

Alanine is crucial for preserving balanced levels of nitrogen and glucose in the body, which it does through a series of chemical actions called the alanine cycle. During the alanine cycle, any excess amino acids (proteins) in cells or tissues are transferred to a receptor molecule called pyruvate, which is produced by the breakdown of glucose.

The pyruvate is then converted to alanine and transferred to the liver. The liver extracts nitrogen from alanine and converts some of it back into pyruvate, which can then be used to produce more glucose. Any excess nitrogen is then converted into urea and passed out of the body during urination.



This cycle, glucose—pyruvate—alanine—pyruvate—glucose, helps supply the body with the energy it needs to support cellular life. It also ensures that a constant supply of pyruvate is available to allow the synthesis of glucose and amino acids in the body.

Another bio-active component of Aloe Vera who works in favor of your formula is Linoleic acid, an essential fatty acid which helps restore moisture. Enhance immunity and help to build muscle and promote fat loss. Recent research suggests that CLA may also help promote healthy glucose and insulin metabolism.

ALOE ANTI-FATIGUE DRINK



Fatigue is an important factor that influences physical performance. It has two components, central fatigue and peripheral fatigue. Central fatigue has been described as relating to neuronal inputs to muscle and the brain circuitry that drives them. Peripheral fatigue relates to nutritional, hormonal, and mechanical aspects of metabolism and physiology that directly affect muscle tissue. Dietary amino acids and protein have been examined for their effect on peripheral and central fatigue, particularly from the metabolic and neurochemical perspectives.

ALOE VERA SPORT NUTRITION

The term “fatigue” is intended to mean, but is not limited to, the physiological states also called exhaustion, lethargy, languidness, languor, lassitude, listlessness, and awareness. It can describe a range of afflictions, varying from a general state of lethargy to a specific work-induced burning sensation within one's muscles. It can be both physical and mental. Physical fatigue is the inability to continue functioning at the level of one's normal abilities. It is ubiquitous in everyday life, but usually becomes particularly noticeable during heavy exercise. Mental fatigue, on the other hand, rather manifests in somnolence.

The expression “reducing fatigue” as used and claimed herein is intended to mean reducing after the fatigue body state has occurred, or preventing the fatigue. It is also intended to mean endurance and/or recovery enhancement or improvement to physical training, exercising or stress.

This sport drink reduce fatigue or improving the recovery and/or resistance to fatigue, or enhancing endurance to stress, fatigue and/or physical or psychological training or exercising. Physical fatigue or muscle weakness (or “lack of strength”) is a direct term for the inability to exert force with one's muscles to the degree that would be expected given the individual's general physical fitness. A test of strength is often used during a diagnosis of a muscular disorder before the etiology can be identified. Such etiology depends on the type of muscle weakness, which can be true or perceived as well as central or peripheral. True weakness is substantial, while perceived rather is a sensation of having to put more effort to do the same task. On the other hand, central muscle weakness is an overall exhaustion of the whole body, while peripheral weakness is an exhaustion of individual muscles.



In addition to physical, fatigue also includes mental fatigue, not necessarily including any muscle fatigue. Such a mental fatigue, in turn, can manifest itself both as somnolence (decreased wakefulness) and just as a general decrease of attention, not necessarily including sleepiness. It may also be described as more or less decreased level of consciousness. In any case, this can be dangerous when performing tasks that require constant concentration, such as driving a vehicle. For instance, a person who is sufficiently somnolent may experience micro sleeps. However, objective cognitive testing should be done to differentiate the neurocognitive deficits of brain disease from those attributable to tiredness.

Temporary fatigue is likely to be a minor illness like the common cold as one part of the sickness behavior response that happens when the immune system fights an infection. Chronic fatigue, on the other hand, meaning of six months or more duration, is a symptom of a large number of different diseases or conditions. Some major categories of diseases that feature fatigue include: Chronic fatigue syndrome (CFS); Depression and other mental disorders that feature depressed mood; Eating disorders, which can produce fatigue due to inadequate nutrition; Physical trauma and other pain-causing conditions, such as arthritis; and Sleep deprivation or sleep disorders.

Fatigue can be also the result of physical body activity, such as but not necessarily limited to, working, exercising, training, mental stress, overstimulation and under stimulation, jet lag or active recreation, depression, and also boredom, disease and lack of sleep. It may also have chemical causes, such as poisoning or mineral or vitamin deficiencies. Massive blood loss frequently results in fatigue and/or training.

The endurance improver, anti-fatigue composition, motor function improver, energy metabolism activator, muscle strength improver and training endurance enhancer according to the present invention are useful as a food or drug exhibiting an endurance improving effect in sports and also broadly-defined exercises including activities of daily life and labors, an anti-fatigue effect, a motor function improving effect, an energy metabolism activating effect and a muscle strength improving effect. They are also useful as a food or drug having effects of inhibiting reduction in endurance, reduction in energy metabolism and reduction in muscle strength. The composition of the present invention has synergistic combination of collagen hydrolysate, blueberry extract, polyphenol, and licorice extract as effective ingredients which have been separately taken for long years as a food, and have high safety with fewer side effects.



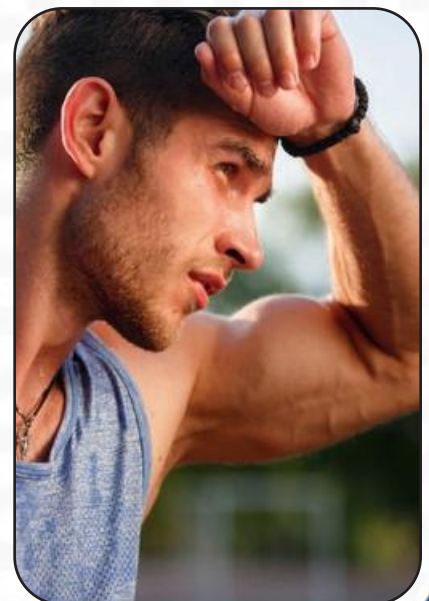
The sense of fatigue is believed to originate in the reticular activating system of the lower brain. Musculoskeletal structures may have co-evolved with appropriate brain structures so that the complete unit functions together in a constructive and adaptive fashion. The entire systems of muscles, joints, and proprioceptive and kinesthetic functions plus parts of the brain evolve and function together in a unitary way.

L-Arginine is one of the most metabolically versatile amino acids. Several in vitro/in vivo experiments have indicated that exogenous L-arginine intake has multiple beneficial pharmacological and pharmaco-kinetic effects. Such effects include reduction in the risk of vascular and heart diseases and chronic fatigue syndrome.

ALOE FOR MUSCLE-RECOVERY SUPPLEMENTS

Besides the recovery benefits that proteins generally provide, many muscle-recovery supplements incorporate amino acids. For athletes, certain aminos are more helpful than others.

These are just a few of them. Aloe with glutamine and arginine stimulate growth hormone release. While both amino acids are great for muscle recovery, each has its unique strong points. Glutamine has been found to increase plasma growth hormone concentrations 4.3-fold 90 minutes after ingesting just two grams of the supplement. This would be most beneficial to athletes doing serious heavy lifting and muscle damage in the weight room. Arginine was found to increase body weight gain by 6.5% while decreasing fat content by 11%. Customers most interested in arginine would be those looking to add lean muscle while also cutting down on fat.



ALOE AND CREATININE

In the last few years there has been considerable interest among athletes in creatine, which occurs abundantly in skeletal muscle. Creatine plays a pivotal role in the regulation and homeostasis of skeletal muscle energy metabolism and it is now generally accepted that the maintenance of phospho-creatine availability is important to the continuation of muscle force production. Although creatine synthesis occurs in the liver, kidney and pancreas it has been known for some time that the oral ingestion of creatine will add to the whole body creatine pool, and it has been shown that the ingestion of 20 to 30 g creatine per day for several days can lead to a greater than 20% increase in human skeletal muscle total creatine content.

Supplementation (20 g per day) with creatine it takes no more than 2 to 3 g per day to maintain the saturation of body stores. Creatine supplementation in an appropriate dose can provide improvements to athletes involved in explosive events, which include all events lasting from a few seconds to a few minutes (such as sprinting, swimming, weight-lifting etc.). Endurance performance in events lasting longer than about 30 minutes appears to be unaffected by creatine supplementation. Creatine is a normal food component and is not a drug and its use is not contrary to official regulations. The biggest benefits of supplementation can be experienced by the elderly, vegetarians or those who eat no meat or fish since these people tend to have low muscle creatine content.

It is recommended to include vitamins in your formula of aloe with creatine. The following vitamins may be added in amounts which range from 20 to 100% of their recommended daily allowance (RDA). The following are typical of those which are useful: vitamin E, vitamin C, thiamin, riboflavin, niacin, vitamin B6, folacin, vitamin B12, biotin, and pantothenic acid. In some cases, a lipid component may be desirable. The carbohydrate as starch (particularly soluble starch) and/or sugars. The sugars could include glucose, fructose, sucrose, and maltose.



ADD TRACE ELEMENTS TO ALOE VERA GEL JUICE DRINK



Aloe and Mineral and trace elements can also be added in any type or form which is suitable for human consumption. It is convenient to provide the calcium and potassium in the form of their gluconates, phosphates or hydrogen phosphates, and magnesium as the oxide or carbonate, chromium as chromium picolinate, selenium as sodium selenite or selenate, and zinc as zinc gluconate. Typically, the amounts are: sodium at 400 mg/liter, calcium at 100 mg/liter, chloride at 600 mg/liter, potassium at 200 mg/liter, magnesium at 75 mg/liter and phosphorus at 50 mg/liter, chromium at 125 µg/liter, selenium at 125 µg/liter and zinc at 15 mg/liter.

MUSCLE RECOVERY

Another category of amino acids that are popular for muscle recovery are branched-chain amino acids (BCAAs). BCAAs supplementation has been shown to increase protein synthesis and decrease muscle protein breakdown. BCAAs administered before and following damaging resistance exercise reduces incidences of muscle damage and accelerates recovery in resistance-trained athletes. It is likely that BCAAs provided greater bioavailability of substrates that improve protein synthesis, and thereby reduced the extent of secondary muscle damage associated with strenuous resistance exercise. Long-distance runners provided an ideal subject base for leg muscle recovery supplements. Such running causes acute muscle damage resulting in inflammation and decreased force production. Aloe with tart cherry juice, which is rich in antioxidant and anti-inflammatory properties, has been known to have a protective effect that reduces muscle damage and pain during strenuous exercise.



ENERGY SUPPORT FOR ATHLETES

Attention must also be focused on nutrition that helps maintain an athlete's energy levels, and several worthwhile supplements can aid in the process.

Aloe Beta-alanine has become a popular energy supplement for athletes in recent years. Beta-alanine, is an amino acid used by muscle cells to synthesize carnosine, which in turn allows muscles to work longer during exercise, taking this supplement significantly improved in many performance areas, including agility, choice reaction and lower body muscular endurance. Beta-alanine and slower release carbs deliver a longer-term benefit.



Other energy supplements growing in popularity are those that spur Nitric oxide (NO) production. Nitric oxide (NO) plays an important role in many functions in the body, such as blood flow and mitochondrial respiration. Two major contributors to Nitric oxide (NO) production are L-arginine and L-citrulline. Studies suggest an increase in Nitric oxide (NO) production may enhance oxygen and nutrient delivery to active muscles, thus improving tolerance to physical exercise and recovery mechanisms. These conclusions show Nitric oxide (NO) as a source of energy for athletes to improve tolerance to aerobic and anaerobic exercise.

The most important physiological determinants of peak endurance performance are the capacity to transport oxygen to the working muscle and diffusion from the muscle to the mitochondria. One of the best supporters of these processes is Aloe with coenzyme Q10 (or CoQ10). CoQ10 plays a key role in mitochondrial energy production and is recognized as a powerful antioxidant. Research also shows that improved cellular energy metabolism occurs with the use of CoQ10.

STAYING ACTIVE: *joint and inflammation support*



The mention of joint and inflammation support supplements might conjure up images of people with old, creaky joints, in need of some help retaining basic mobility and comfort. But in light of current trends, it should also bring to mind healthy, resilient joints, and active people young and old who are looking to stay mobile and pain free.

This category has historically been led by consumers who are reacting to a health concern, but we're seeing that trend shift, with more people incorporating these products into an everyday preventative regimen, especially among younger, active consumers.

ACTIVE LIFESTYLES AND JOINT HEALTH

Broadly speaking, the joint and inflammation category is still largely geared toward older people experiencing issues (Baby Boomers are today's prime candidates). But interest in prevention and maintenance among younger consumers is a definite trend.

Joint health is an increasingly popular issue among active Baby Boomers and 30 to 40 year olds alike. As such, inflammation is vital to protecting the body, and that it is excess alike. As such, supplements traditionally designed to help cause problems. Many consumers, with athletic performance are however, are catching on. now helping with repair and recovery. Joint health is important practice more preventive methods in many sports, including cycling, of health and wellness, not running, climbing, etc. There is a wanting to potentially end up trend to include joint-health with the disabilities and/or ingredients in sports nutrition diminished quality of life that products.their parents or their grandparents have experienced.



Thinks joint health products should be considered as part of an overall prevention- and recovery-focused supplement protocol. For example, CrossFit athletes are one group that could benefit from Aloe with MSM supplementation, as they challenge different sets of muscles with exercises that continually change and are not just a series of repetitive motions.

ALOE VERA SPORT NUTRITION

The under-40 set has yet to take off as joint health product consumers. The currently middle-aged and older are more active than previous generations, as many participate in sports or work out regularly. These consumers want to look and feel younger, live longer and prevent disease. Healthy joints are a necessity for maintaining their active lifestyles, and many are turning to natural solutions for prevention. As younger generations age, this desire may only strengthen. This bodes well for manufacturers of joint supplements.

The millennial generation is driving growth in the supplement market as a whole, and in the joint health space, younger people are looking at scientific evidence with a focus on projecting their joints. The aging population, specifically Baby Boomers, also remain an important factor in the market, and our data show that they are looking for natural alternatives to help them reduce the use of Nonsteroidal Anti-inflammatory Drugs (NSAIDs) pain relievers.

There are other groups that joint health supplements can cater to strongly, including overweight people and those with jobs that stress the joints. Those with sedentary lifestyles are at risk for joint health issues as well.

It's important to consider these lifestyle factors with regard to joint health. Staying active with daily exercise, is an important contributor to the wellness of joints. It is important for folks to keep a balanced approach between diet, supplementation, daily exercise and sleep. Proper stretching prior to exercise helps warm up joints and can reduce injuries. He also says that using topical products can help with both pre-exercise warm ups and post-exercise muscle recovery.

Joint health also continues to be an important category for consumers who are looking for new ingredients that are more effective than existing products.

Our joints (like the elbows and knees) are surrounded by a membrane called the synovial membrane, which forms a capsule around the ends of the bones. This membrane secretes a liquid called the synovial fluid. Basically, the synovial fluid is found in joint cavities. It has many functions, including serving as a lubricant, shock absorber and a nutrient carrier. The fluid protects the joints and bones. Cartilage is immersed in the synovial fluid and is a fibrous connective tissue. Cartilage is avascular, meaning it contains no blood vessels. This is why the synovial fluid is so important. Synovial fluid is the only way in which nutrients can be carried into the cartilage and waste can be removed.



ALOE VERA SPORT NUTRITION

Aloe and phyto-sterols have been shown to improve the balance of Th1 and Th2 immune cells, modulate inflammation, and help combat fever and aid in the destruction of abnormal cells. Levy says sterols also help maintain the ratio of the adrenal hormones cortisol and DHEA, which helps prevent the negative immune consequences of stress. Healthy athletes can certainly benefit from these effects of plant sterols.

Aloe Vera contains a variety of compounds (esp. polyphenols and phytosterols) with confirmed antioxidant capacity, and putative therapeutic actions (including blood glucose, cholesterol and cortisol lowering properties). Aloe Vera contains a phyto-sterol/beta-sitosterol. Beta-sitosterol is a competing sterol that will enter the blood. The body can use and break down beta-sitosterol simply with no side effects. As a result, the dangerous LDL cholesterol will pass out of the body without doing damage. With time – our body would produce less LDL cholesterol and so the levels will drop.



There are three Aloe Vera gel sterols were able to reduce inflammation by up to 37%. Lupeol, the most active anti-inflammatory sterol, reduced inflammation in a dose dependent manner. The data suggest that specific plant sterols may also contribute to the anti-inflammatory activity of gel. The Aloe sterol includes campesterol, β -sitosterol, lupeol, and cholesterol which are anti-inflammatory in nature, helps in reducing the inflammation pain and act as a natural analgesic. Gibberellin (a plant growth hormone) in Aloe increases wound-healing by increasing protein synthesis. Aloe Vera and gibberellin: anti-inflammatory activity in diabetes. The activity of gibberellin-like substances



ALOE LIPIDS

possibly plays a major role in the wound healing and anti-inflammatory activity of Aloe Vera.

Unlike steroids, Aloe Vera and gibberellin inhibit inflammation but do not retard wound healing. This study helps redefine inflammation as it relates to wound healing.

- Aloe Vera inhibits inflammation and adjuvant-induced arthritis.
- Aloe Vera improves wound healing, which suggests that it does not act like an adrenal steroid.
- Aloe Vera inhibits inflammation and adjuvant-induced arthritis.
- Aloe Vera inhibits inflammation and adjuvant-induced arthritis.

Aloe contains Glutamine, which is one of the non-essential amino acids in humans. Although the body can produce it, immune system weaknesses and nerve problems can occur during times of high demand. Our body uses L-glutamine to create proteins, so-called amino sugars, and to support the production of the super-antioxidant glutathione.

The body also uses L-glutamine to increase water retention in muscle cells, help signaling cell growth and to start intensifying production of protein and glycogen. Enrich Aloe Vera with Glutamine is therefore a very popular supplement with strength athletes. Among the free amino acids in human blood, L-glutamine is the most abundant at around 20% of the total. It also exists in a peptide-bonded state, which makes it chemically very stable.

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Aloes with Vitamins like D and C, she says, are the key in this recovery process, that the need to support post-exercise recovery extends beyond the competitive athlete. For example, the aging Boomer population is more active than ever and knows that daily physical activity is key to a vibrant life, but that should be balanced with supplements that support recovery, getting enough sleep and managing stress.



WHY DOES MY KNEE FEEL BETTER?

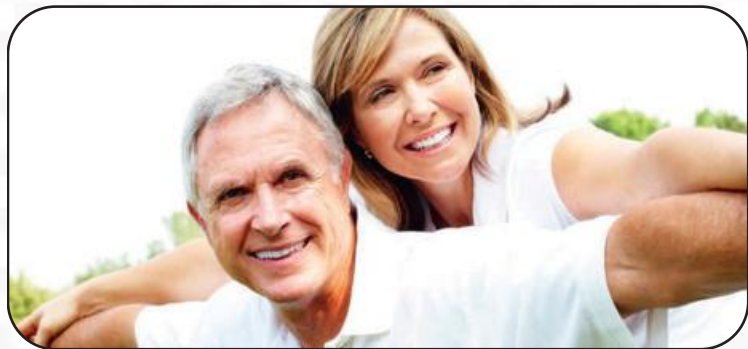
Behind the success of buzzworthy supplements like curcumin, glucosamine and chondroitin are physiological processes that aren't easy to grasp. In fact, science is still unraveling just what goes on in many cases. A walk down the inflammatory pathway and a peek at recent science, including human trials, will help make things clearer.



Joint support, as a category, can be divided into two sub-categories, the first is classical nutritional support boswellia has been shown to make a major impact on the 5-LOX pathway. Due to this mechanism, it is thought to inhibit inflammatory leukotrienes. Manufacturers seek to synergize these botanicals. Also you can add aloe with curcumin, boswellia, nattokinase (to improve microcirculation) and the amino acid DLPA to help keep endorphins and enkephalins active for pain relief.

What are glucosamine and chondroitin? And why is glucosamine always said first? Chondroitin may need a better public relations firm, but its popularity with consumers is undeniable. It is a naturally occurring molecule that is a major component of cartilage. It absorbs fluid, mainly water, into the connective tissue, thus helping to keep cartilage healthy.

The commercial chondroitin comes from various sources, including bovine, porcine, avian or combinations of these. Chondroitin sulfate is not only a building block of cartilage, but also slows the breakdown of cartilage.



Chondroitin sulfate is bound to proteins like collagen and elastin in cartilage, tendons and ligaments. It can contribute to strength, flexibility and shock absorption in joints, Chondroitin and its effects are thought to lead to cartilage regeneration by providing the body with missing elements of cartilage.

Glucosamine, meanwhile, is produced naturally in the body, and plays a key role in building cartilage. No food sources of glucosamine exist. Most supplements are made from chitin, the hard outer shells of crustaceans, though glucosamine from other sources is available. Glycosaminoglycans (GAGs) and other compounds are essential to cartilage formation, and whereas chondroitin is itself a GAG, glucosamine is a GAG precursor. Glucosamine sulfate, beyond stimulating cartilage growth, also helps incorporate sulfur into cartilage.

ALOE VERA SPORT NUTRITION

Sulfur is essential for joints, as it stabilizes the connective tissue matrix of cartilage, tendons and ligaments. In supplements, glucosamine sulfate is usually combined with one of two mineral salts: sodium chloride (NaCl) or potassium chloride (KCl). To fully render their importance, Joint health is consistently one of the largest selling product categories, with glucosamine and chondroitin combinations with Aloe, having led the pack for a number of years.

Both supplements can help with the rebuild and repair components of the joints, leading to improved mobility. Studies on glucosamine and chondroitin remain mixed, and while they may help to rebuild cartilage, it can take weeks or months before consumers notice a difference. Despite the popularity of glucosamine and chondroitin, this pairing may only provide a partial approach to joint health because they lack support for collagen. Cartilage and the synovial cavity, which together make up the joint, require both GAGs (like chondroitin and hyaluronic acid) and collagen to thrive, make a stimulation of cartilage-forming chondrocytes to produce collagen type II, which is implicated for cartilage rebuilding.



Omega-3 fatty acids, particularly DHA and EPA, have an established track record for reducing inflammation, which Levy says makes them a viable option for inflamed joints. Their anti-inflammatory effect delays the catabolic breakdown of cartilage, he says. Research shows this effect may be due to the inhibition of the COX enzyme, which produces prostaglandin hormones that induce inflammation.

Research also shows that as basic components of cartilage and synovial fluid, omega-3s stimulate the anabolic process of cartilage metabolism (cartilage building). A proper ratio of omega-3s is important. Using 750 mg of EPA and 134 mg of DHA in combination to support joint health. Kidd adds support for a specific source of omega-3s. Authentic krill extract can provide very substantial support for joint health.

MSM helps fight exercise-induced inflammation by cutting down on the amount of free radicals formed by the intense activity, decreasing measures of muscle damage and soreness. This means less recovery time and a quicker return to exercise or daily activity. According to research provided by Meletis, minerals like boron, zinc, copper and selenium are protective of healthy joints.

Another natural option for inhibiting COX 1 and 2 enzymes is cherries. Cherries have also been shown to lower blood levels of uric acid. A high level of uric acid is associated with gout pain, and researchers think that compounds in cherries inhibit the relevant inflammatory pathway. Other options for promoting healthy joints, including bovine cartilage, sea cucumber, vitamin C, vitamin B6 and pineapple bromelain.



ALOE VERA SPORT NUTRITION



The joints are living tissue just like everything else in the body, and all our tissues require all the vitamins and essential minerals. In summarizing the options consumers have for joint support, he recommends multiple vitamin-mineral supplements that provide nutrients in their active forms as a good choice for everyone.

In addition to dietary supplements, Paradise emphasizes the impact that topical products can have in this category. He says his company's patented healing cream technology (Topricin) was developed by looking at the metabolic and cellular causes of pain. This includes how excess inflammatory fluids and toxins undermine joint health, as well as how underlying deficiencies lead to joint deterioration.

WE BREAK DOWN IMMUNE HEALTH SO YOU CAN HELP CUSTOMERS BUILD IT UP

Some want to get well fast. Others want to avoid those sneezes and coughs before they start. Still others want to improve their core immune strength from the digestive tract down to the cellular level. When dealing with a category as broad as immune support, it can be hard for supplement manufacturers to pin down what the majority of consumers are looking for. But with strategic marketing and a solid foundation in science, they stand a great chance of making that connection and, in the process, delivering products that will help shoppers achieve a healthier tomorrow.



IMMUNITY INS AND OUTS

Scientific backing is helping to elevate the immune support category in the eyes of consumers while also placing it on a firmer footing with regulators. Aloe as ingredients to improve immune system, many people consider immune health to be the foundation of wellness, claims in this category can encompass a variety of product positions. AMB found that consumers attribute many benefits to a healthy immune system, including energy, productivity, mood, mental clarity, stress management, athletic performance and quality of life.



Supplement manufacturers typically deal in relatively general terms when marketing immune support products, the terms like "convenience" and "immune boosting" or "immune support" are used most often, without making any explicit disease benefit claims.

QUICK-RELIEF VS. YEAR-ROUND SUPPORT. Of course, there is no shortage of natural options that can help those looking for a timely immune boost, and these products are sought-after commodities among shoppers. Aloe Vera is a longer-term focus. Consumers are getting smarter and are beginning to round out their immune support regimens with year-round products.

ALOE VERA SPORT NUTRITION

Aloe can be formulated for quick response for seasonal and year-round supplements each have a place in the market. Both types of products will be good sellers in the future, as in the winter months many consumers want to see a quick boost in immunity and those consumers that are educated on the topic want year-round immune supporting products.

Consumers are taking a more proactive approach toward their health in general, and this is especially true of the aging population. Baby Boomers are trying to stave off illness instead of just reaching for OTCs when cold and flu occur, and year-round, natural immune support supplements can be one of the first places they look.



THE POWER OF ALOE VERA: *Polysaccharides*

The active polysaccharide fractions in Aloe are called galacto-mannans or beta-glucomannans. These polysaccharides have been shown in laboratory studies to act as a bridge between foreign proteins (such as virus particles or lignins) and macrophage cells in the human body, facilitating the destruction of the invading the protein by the macrophage. Activating the receptor sites of the macrophages is also a key to the overall boosting of cell-mediated immunity, which, significantly, is deficient in HIV infection and other immune disorders. In addition, Aloe polysaccharides also protect the bone marrow from damage by toxic chemicals and drugs.

These various effects, while seemingly widespread and unrelated, are in fact due to one simple process that occurs at the cell membrane.

Acemannan (the name often used for Aloe beta-glucomannans, acetylated polymannans and mucopolysaccharides) is a long chain sugar that interjects itself into all cell membranes. This results in an increase in the fluidity and permeability of the membranes allowing toxins to flow out of the cell more easily and nutrients to enter the cell more easily. This results in improved cellular metabolism throughout the body and an overall boost in energy production.



Aloe is a rich source of polysaccharides and has various carbohydrate constituents, for example, polysaccharides, acemannan, and mannose-6-phosphate, of which mannose-6-phosphate and acemannan are major constituents of the carbohydrates of Aloe Vera. Aloe polysaccharides are known scientifically, boost your brain power, improve your digestion, your moods and maximize your immunity. Polysaccharides seem to be essential to the needs of every cell in the body. Increasing your consumption of them through diet and supplementation could lead to restored health. What these polysaccharides do in our bodies is a complicated process that leads to cell to cell communication. It means that communication inside our bodies between cells is as significant to our wellbeing - Polysaccharides provide building blocks needed to assemble healthy cells and enable these glycoforms to create correct cellular communication. When cellular messages go wrong then health breaks down and sickness occurs.

ALOE VERA SPORT NUTRITION

Wound healing does not just require immune stimulation by polysaccharides but Aloe s healing comes from growth factors, amino acids, glycoproteins, gibberellin, auxin and minerals such as zinc as well as polysaccharides. These biologically active agents synergize to give us the synergetic action of Aloe Vera. Polysaccharide with the other bioactive compounds makes major contributions to the biological activity of Aloe Vera.

Polysaccharides are sugars, i.e. organic compounds containing carbon, hydrogen and oxygen - carbohydrates - which, like the fat, are supplying our organism with the necessary energy that needed daily.

Aloe contains the most important polysaccharides:

- Mannose: Stimulates the immune system, particularly the T-4 cells and the white blood cells that react and fight infections.
- Glucuronic acid: It has a strong detoxifying effect.
- Rhamnose: Polysaccharide in the primary cell wall.
- Cellulose: It is the most common form of carbohydrates in nature. It is the main component of plant cell walls. From cellulose we take glucose.
- Glucose: The main source of energy for living organisms. Main source of energy for the body and the sole source of nutrients for the brain tissue.
- Hexouronic acid: It is involved in energy production.
- Lactose: Herbal low calorie sweetener, added to sweets and energy drinks.
- Xylose: Also low calorie herbal sweetener.
- Galacturonic acid: Nutritional additive.
- Arabinose: Pentose used for weight reduction, treatment of hepatitis-B and inhibitor and sucrose in diabetics.
- Aldopentose: Another pentose.



ACETYL MANNOSE OR ACEMANNAN

One miracle ingredient of Aloe is acemannan or acetylated mannan which acts as a potent anti-inflammatory agent. Protects the spinal cord from damage due to chemical poisons and harmful drugs. Detoxifies, cares and stimulates the cells of the immune system, improves metabolism and provides increased energy levels. It is the natural bio-stimulant of the body.

Acemannan is stored in all cell membranes and thus it achieves an immune enhancing of whole our body against pathogenic parasites, bacteria, fungi and viruses. Acemannan has shown several positive results as an aid in the treatment of immunodeficiency.

BE A PIONER USING ALOE VERA INGREDIENTS

One of the concerns of nutraceutcial industry door use other ingredients in powder form , is the difficult to have a quickly dilution ratio and avoid imgreredients to make lumps, For that reason , AMB develop its Aloe Flakes, who has an advantage in production process or when it is used by the final consumer, it has a high solubility and superior dissolution properties. Because of its extra thin layer form and lesser porosity , it has an advantage over any other common types of dried. As we also mentioned above, process by which we produce Aloe flakes retain a higher concentration of the Aloe ingredients. The main purpose of aloe flakes is

to improve certain physical properties of food powders such as bulk density, flowability, dispersability, and stability. Aloe flakes is easy to use by the consumers and hence are preferred over the traditional spray dried powder form , that are usually has higher solubility rate and makes lumps and need to wait to disperse to use in formula. Reduce process time and enhance the quality of your final product.

ALOE VERA SPORT NUTRITION

Another advantage of using Aloe Flakes is that it can be customized to fit a broad range of mill sizes and bulk densities that is of great help for new products development and to improve old formulas.

Create Instant, healthy or sport drinks in solubility with ALOE FLAKES[®] it is directly related to particle size: although being 100% soluble, small particles (i.e. 80-100 mesh) have a slower dissolving rate.

Due to its high molecular weight carbohydrates present in aloe vera, there are unique problems associated with dissolution. The complex physical structure, solubility is impacted by several factors (e.g. temperature, pH, and polymer size) that affect aggregation resulting in slower time for solubilization. When you use a spray dried powder lumps are formed in the powder because of the sphere shape of the particles resulting in a poorer and longer dilution process.



ALOE FLAKES IS EXCELLENT OPTION FOR PROTEIN DRY MIXTURE

DISPERSIBLE IN WATER



The unique functional properties of aloe flakes by AMB wellness improves your functional marketing value and imparts and gives an added value in nutraceutical products. In certain industries, the rheology properties of Aloe Vera is very important to the food industry preparations, aloe flakes allows the consistency, degree of fluidity, and other mechanical properties and does not affect the determining food texture. Aloe flakes work in solid, gel, liquid, emulsion with associated rheological behaviors, and its rheological properties can be noticed in manufacture process, Aloe Flakes powder has a good dispersability and significantly improves the dilution process with water or other liquid materials as milk protein.

Use ALOE FLAKES[®] when formulating liquid viscous formula to gain advantage of the fast dissolving rate in manufacture process and uses of the consumer too, for example green and superfruit juices.

ALOE FLAKES[®] could be milled to almost any particle size suitable for such applications like tablets or capsules, as well as cereal bars and some other dry foods.

State of the art process by which Aloe Flakes are produced gives our customers an advantage by obtaining a higher retention of vitamins, minerals, enzymes, antioxidants and polysaccharides compared to those dried by a more commonly practiced method such as spray or freeze drying. ALOE FLAKES due to its proprietary process protects polysaccharide product derived from the juice of the aloe plant resulting in a novel product.



ALOE VERA SPORT NUTRITION

OUR ALOE VERA GEL 200 x SPRAY DRIED OR ALOE FLAKES ARE IDEAL FOR:

- Promote cognitive development and healthy cardiovascular support to older adults
- Nutraceutical and other meal replacement applications
- Fortified drinks and other prepared foods
- Free flowing powders
- Ideal for tablets, two piece capsules
- Eliminate need for gelatin capsules
- Eliminate concern with BSE and other gelatin contaminants
- Improve the solubility when applying Aloe Vera in your formula, adding aloe flakes instead of aloe spray dried in your formula, ideal for a mixture with high density/ viscosity ingredients.
- Excellent for athlete sport and energy formulation with high ORAC in bars
- Make detox drinks
- Aloe Vera drinks
- Aloe flakes (omega 3), diglyceride CLA (omega-6 and thermogenic), MCT (Thermogenic), vitamin E (Anti-oxidant) for cereal fortification
- Aloe flakes in powder beverages, instant dry mixes for sachets or stick pack
- Aloe has many applications in food processing and major applications include, dispersible milk powder and soup mix, instant chocolate mix, beverage powder, compacted cubes for nutritional-intervention program, health bars using expanded/puffed cereals, etc.



ALOE IS IDEAL TO MAKE FOOD PREPARATION OR FORMULA CONTAINING OR MIXING IN FOLLOWING CARRIERS:



- Calcium carbonate
- Potato starch
- Silica
- Bath salt
- Sucrose
- Dried food blends
- Pure fruits
- vegetables in powder form
- Fresh puree of green vegetables as barely grass, wheat grass, Broccoli, Cabbage, alfalfa, Wild Parsley and others.
- Egg shell powders
- 8 vegetable juices
- Fruit juices
- protein fortifier
- Maltodextrin
- Tri-calcium phosphate
- Coral calcium
- Dried fruit powders
- Tapioca dextrin
- Mineral blends
- Silicon dioxide
- Vitamin premixes
- Probiotic powders
- Microcrystalline cellulose (MCC)
- Corn starch
- Refined sugar
- Magnesium oxide calcium
- Talc
- Enzyme powders
- Protein powders
- Magnesium carbonate

NUTRITIONAL INDUSTRY USES:

- Ideal for Nutritional (Nutri) grade powders.
- Aloe omega tablets or capsules with omega 3,6,7,9 (flax, borage, macadamia, olive).
- Powdered lutein ester tablets or capsules as part of eye car formula.
- Aloe and CLA, Medium Chain Triglycerides (MCT's in sports drink).
- Tablets or capsules forms of aloe flakes & vitamin E for Nutraceutical /dietary supplements yogurts/ beauty drink/ beauty drinkable yogurt.
- Aloe plus diglyceride containing conjugated linoleic acid and MCT in slimming tablets, capsules, sachets.
- Aloe in weight management dry shake meals products.
- Aloe plus Alpha Lipoic Acid (ALA)(flax).
- Tablets or encapsulated aloe plus gamma linoleic acid (GLA) (borage, primrose, black currant).
- Tablets or encapsulated aloe plus DHA (Fish, tuna, krill, algae-based oils) Fortified foods.
- Formulated foods.
- Functional drinks.
- Aloe for protein and energy bars.
- Condition-specific foods, beverages:
 - o Degenerative disease.
 - o Immune booster.
 - o To relieve heartburn, arthritis and rheumatism pain.
 - o As general detoxifier and health boosting qualities.
 - o Bioavailability enhancer (of other nutrients)
 - o Weight-loss supplements.



ALLOW YOUR CLIENT BETTER PERFORMANCE IN ABSORPTION OF PROTEIN WITH ALOE VERA

Aloe contains malic acid. Since malic acid has a vital role in metabolic activities within the cells and facilitates the body to receive ATP, it is considered to be the 'energy current' that circulates throughout the body augmenting the production of cellular energy. Besides generating energy, malic acid also assists in shielding the muscles from exhaustion and helps in lessening the toxic consequences of specific metals. In addition, malic acid also perks up the immune system, sustains the oral health, promotes the health and functioning of the heart, nerves and muscles, and is beneficial for softer and more compact skin.



AMB WELLNESS INFORMATION

Available in juice single strength liquid concentrates and powder form. From AMB, your customers can get the following advantages:

- Quality and purity certification
- The best microbiological quality
- Longer shelf life (Two years minimum)
- Year-round supply
- Multimodal Export Experience
- On time delivery
- Friendly service
- We supply Customized Extracts according to your requirements
- AMB WELLNESS supplies healthful organic Aloe Vera



ADHERING TO INTERNATIONAL STANDARDS

All of AMB Wellness's Aloe ingredients adhere to the following international standards:

- Certified Organic by Bioagricert (IFOAM) according to USDA organic rules.
- Certified Halal by IFANCA, our Aloe is certified to fit for consumption by the Muslim community.
- Certified Kosher by Star-K, a leader in the international world of kosher certification. All of our Aloe meets the dietary requirements of Jewish Law.
- Certified pure by the International Aloe Science Council, a non-profit organization that subjects Aloe facilities and products to a series of rigorous quality and purity tests. Our ingredients proudly bear the IASC seal, which means you are getting the purest, most beneficial Aloe possible as your ingredient.

