

COMMERCIAL BULLETIN

ALOE FORTIFIED GUMMIES



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ALOE FORTIFIED GUMMIES, A NOVEL DELIVERY SYSTEM; ADD NUTRIENTS AND ACTIVE INGREDIENTS, VITAMINS OR MINERALS

Combine active ingredients with enjoyment!

Nutrition is top of mind for consumers today; but taste, convenience, and ease of use are also influencing purchasing decisions. With such demands from discerning consumers, there's no wonder gummy formats are all the rage in the supplement space. Supplement shoppers are looking to formats like gummies because they like taking vitamins and minerals in a fun and easy delivery methods. These innovative delivery platforms such as gummies, provide an appreciated twist from consumers' routine, allowing them to have a more sensorial, enjoyable experience, than how they do with a simple tablet.



While vitamins are popular ingredients in the gummy format, Aloe Vera is known for its delivery properties to carry and enhance, making it a vehicle for an important number of other nutritional ingredients. From your standard multivitamin, to omega-3, melatonin, to collagen peptides and probiotics. Gummies can be designed for specific demographics (prenatal, men's, kids, etc.) to contain a variety of beneficial personalized micronutrients, that are also increasing popularity. Global Demand for Aloe Vera extracts will continue its upward momentum. The growing health and wellness trend will also boost the positive sentiment on Aloe Vera, with wide-ranging applications opening up new avenues of evolution.

Merge the need of innovative, high-quality and cost-effective products to ramp up your sales. Aloe Vera extracts are gaining traction as an essential ingredient in food, beverages, cosmetics, nutraceuticals and pharmaceuticals.



Demand for this innovative products will continue to grow at a healthy rate in global market, where a rapidly growing middle class, with increasing disposable income is making a steady shift to natural and organic products.

Factors such as the increase of the trend of consumers towards healthy lifestyle, coupled with the demand of the use 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. As of now, the new trend on the Aloe Vera Global Market is using it for Nutraceuticals as a vehicle to enhance the bioavailability of other functional ingredients, instead of using other carriers that will not contribute.

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Aloe Gummies equal high bioavailability

Because of the better absorption of the other ingredients, Aloe Vera can be found mixed with other actives such as vitamins, minerals, amino acids, botanical extracts and so on. With the continuous sedentary and hectic lifestyles of industrialized regions in the world, and the relative increase of the senior segment of the world population, these trends are expected to grow. It is not about focusing on a simple target to sale, but to focus on how we can offer best results. Despite numerous issues facing the market, herbs and botanicals are set to experience the fastest growth of any of the nutraceutical categories, in fact, sales will continue to increase worldwide.

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 benefits 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. Today's consumers are much better informed about nutrients and plant extracts.

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, include increasing number of health conscious consumers, rising number of urban population along 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. These platforms include digestive health, active nutrition/sports nutrition, healthy aging and nutritional oils.



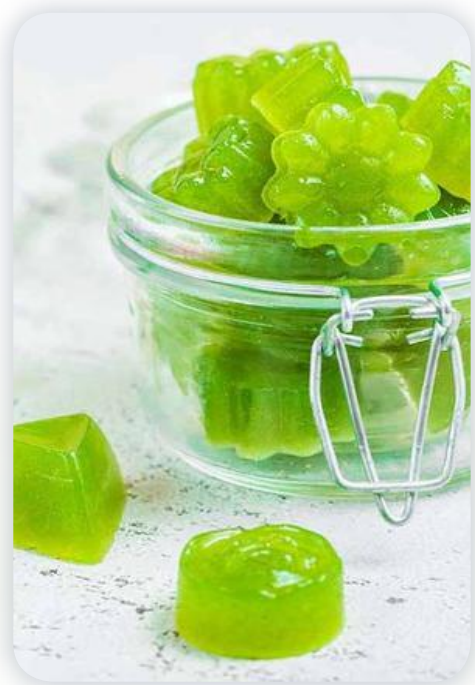
Gummy supplements aren't just for kids anymore. Today, kids and adults alike are drawn to these products for their visual appeal, ease of consumption, and compelling variety. As gummy supplements become more available and appealing to consumers, market research suggests the category will continue to grow. Manufacturers and marketers would be wise to understand that dosage forms of delivery from these ingredients can make as big of a difference in the 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.

Gummies are by far one of the most pleasing delivery format to take and both kids and adults are getting a higher bioavailability with Gummies than with any other dosage form.

Studies show that one of the most common things preventing people to get the most benefit from food supplements is to consume them every day. To have a daily intake of the active ingredients increases the bioavailability and thus the efficiency of the supplement in question.

Gummies have the advantage to decrease the risk of forgetting to take the daily dose because of the tastier and enjoyable way of consumption. Today, one of the biggest obstacles is the limited amount of active nutritional ingredients you can add to the gummy matrix, compared to the amount you can include in a tablet and/ or capsule. For example, to deliver 250 mg of vitamin C in a gummy, you would need three to four pieces to equal one serving, versus one tablet or capsule to deliver 250 mg vitamin C. Aloe Vera is ideal as a carrier, excipient and bioactive enhancer for an active ingredient delivery system, this approach addresses the limitations of the traditional drug delivery systems, determination of pharmacokinetics, mechanism of action, site of action, accurate dose required etc.)



There is a very large population worldwide which consume vitamins, and many people also consume Aloe as well. So speaking in the bio ability of a larger consume of vitamins, combined with the Aloe Vera, improves the effect of it in the absorption of vitamins C and E, the most popular vitamin supplement.

The results of tests, indicate that the Aloe improves the absorption of both vitamins C and E. The absorption is slower and the vitamins last longer in the plasma with the Aloe Vera. Aloe is the only known supplement to increase the absorption of both of these vitamins and should be considered as a complement to them.

The Aloe Vera Gel absorption was 304%. Aloe Gel caused a significant increase in plasma ascorbate after 8 and 24 h. For vitamin E, AVG gets 369% of absorption. Only Aloe produced a significant increase in plasma tocopherol after 6 and 8 h. Don't be the last, improve your old formula and boost your sales.

The use of Aloe Vera into gummies formulation can take advantage of the absorption properties and increase the benefits for the consumer, even in the reduction of the intake number of gummies.

Aloe Vera and Transepithelial / transendothelial electrical resistance (TEER)



Aloe Vera has an effect on the 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. This reduction in TEER of the excised intestinal tissue by the Aloe Vera indicates its ability to open the tight junctions between epithelial cells, which indicates the potential of these materials to enhance drug transport across intestinal tissues.

TEER is a measure of tight junction integrity between adjacent intestinal epithelial cells. If the size of the openings of the tight junctions increases in the presence of a para-cellular permeability enhancer, the TEER of the intestinal epithelium will be reduced because of the increasing flow of ions through the opened tight junctions and intercellular spaces.

Tight junctions between epithelial cells are dynamic structures that can be modulated by certain chemicals in such a way to enlarge the pores or fenestrae and thereby allow para-cellular passage of hydrophilic macromolecules. This approach to drug absorption enhancement has the additional Advantage of avoiding enzymatic degradation of susceptible molecules. Aloe Compounds selectively open the intestinal epithelial tight junctions, referred to as para-cellular permeability enhancers, have shown potential as novel excipients in advanced drug delivery systems.

It is well known that polysaccharides of natural origin such as Aloe are capable of enhance the intestinal absorption of co-administered drugs by means of a transient opening of the tight junctions between adjacent epithelial cells to allow for para-cellular transport across the intestinal epithelium. Aloe Vera Gel Extract could decrease the trans-epithelial 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.

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