

ACEMANNAN

Nature's Super-Molecule

Since the beginning of recorded time, the Aloe vera plant was a staple in ancient medicine in cultures around the world.^{1,2} Records from the Greeks, Egyptians, Romans, Arabs, Africans, and Asians validate its broad base of uses and benefits.^{3,4} These benefits resulted from both its topical and internal uses. And due to this rich history in topical wound healing, Aloe vera gel was first researched by the Atomic Energy Commission in the 1940s.⁵ Test results on fresh Aloe vera gel showed it to be one of the only substances to support a healing effect from beta radiation burns. The problem, however, was that this therapeutic effect eroded too quickly to be a practical solution. This meant that Aloe vera's biologically active ingredient was labile, and naturally denatured within days of being extracted from the plant. This explains why the thousands of commercialized Aloe vera-based products that have come into the market have rarely shown to the same level of benefits recorded over thousands of years in ancient medicine.⁵



In the mid-1980s a group of scientists finally identified the biologically-active molecule in fresh Aloe vera gel and discovered a way to stabilize this ingredient for commercial use, resulting in the issuance of over 160 worldwide patents. This molecule was identified to be an acetylated polymannan (carbohydrate) and was named Acemannan.

Acemannan is comprised mainly of mannose, a monosacchride that is necessary for the proper structure and function of every cell in the human body and essential for proper functioning immune system. In fact, when a woman becomes pregnant, she converts high amounts of glucose into free mannose and small Acemannan type structures to aid in the development of her child's immune system and in the support of proper gut health. High levels of mannose is a major factor that distinguishes human breast milk from any other mammal milk and is a key ingredient missing in baby formulas.⁶

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Studies have shown that Acemannan is responsible for a wide range of biological support activities such as wound healing, anti-fungal, anti-bacterial, antiviral, anti-inflammatory, immunomodulatory, and gastro-protective.⁷ Clinical studies on Acemannan resulted in the regulatory approvals by the FDA and the USDA for its use in topical hydro gels for the management of all types of wounds in humans and animals, as a vaccine adjuvant for the prevention of a T-cell lymphoma cancer in poultry, called Marek's Disease, and as an injectable immunostimulant in veterinary medicine for the treatment of fibrosarcoma (tumors) in dogs and cats.⁸⁻¹³

Research has also shown that when taken orally by humans, Acemannan supports proper immune function by activating and modulating the activity of macrophages, essential immune cells derived from stem cells in bone marrow. Macrophages help the body detect and eliminate any foreign antigens or micro-organisms and serve as the master regulators of defense, repair and regeneration.¹⁴ Since an estimated 70-80% of a person's immune system is housed in the gut, this research prompted the development of the first stabilized Acemannan dietary supplement powder by Carrington Labs, called Manapol®. Research relating to the immune supporting activity and ultimate health benefits of the oral intake of Acemannan quickly began to surface causing a huge consumer demand.

The Aloe industry capitalized on this demand by creating hundreds of new products containing what they called, "stabilized Aloe." This seemed to be exactly what consumers were looking for based on the growing body of Acemannan research. Unfortunately for the uninformed public, "stabilized Aloe" was a term created by the Aloe industry to validate that a product contained enough preservatives to control microbial growth, and had absolutely nothing to do with its Acemannan content. A study published in 2004¹⁵ examined 32 industry products representing most of the world's suppliers of "standardized Aloe" products. The only consistent finding in the study was the total lack of consistency among the products tested. Some had no Acemannan while others showed no consistency from one product to the next within the same brand.

By the early 2000s, only a few manufacturers were willing to invest in the processes required to stabilize the Acemannan content in their products. With no required Acemannan standards, the entire Aloe industry continued to leverage off the efforts of that small few.

Giant Leap in Acemannan Processing

The molecular weight of Acemannan molecules in Aloe vera gel range from below 5,000 Daltons to over 8 million Daltons, with an average weight of between 1-2 million Daltons. Stabilized Acemannan products

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contain the full spectrum of these molecules. All molecular weights provide benefits to a person's health, but researchers wanted to know which size molecules were actually responsible for immune system activation. A 2005 published study answered that question.¹⁶ Researchers in South Korea discovered that Acemannan molecules with molecular weights of 400,000 Daltons and below activate macrophages while those larger than 400,000 Daltons have only marginal immune-modulatory activity. The larger Acemannan molecules are converted in the gut into Short Chain Fatty Acids (SCFA) which support overall colonic health.

Research has also shown that there are pump sites on our intestinal walls that capture and transport Acemannan with molecular weights of below 5,000 Daltons directly into our blood stream. These unique polysaccharides have been shown to help protect our bone marrow from damage from chemical poisons and drugs while supporting our cells' mechanisms of detoxification, defense, repair and regeneration. For Acemannan to be effective, both its size and amount must be controlled.¹⁷

Based on these findings, Dr. Santiago Rodriguez, the world's premier processor of Aloe Acemannan, developed a revolutionary new processing technique for substantially elevating the levels of standardized immune-modulating and bioavailable Acemannan fractions. Dr. Rodriguez licensed the best of this new composition to MannaRelief and EvolvHealth in order to support their joint purpose of helping to eradicate childhood malnutrition. Through their Buy 1, Nourish 2™ social business platform, EvolvHealth consumers can obtain a significant and powerful immune-activating product while supporting the world's most vulnerable children with the same advanced Acemannan technology. It's truly a win-win proposition for all concerned.

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