



# LIFE SCIENCES TODAY

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## *A Major Advance in Healthcare*



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1974 – 1990  
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1991 – present

In 1979, after five years of hearing countless testimonies of improved health from people who drank my company's aloe vera juice, I knew that some unknown ingredient in the inner gel of the aloe vera leaf improved health conditions better than most products on the market at that time. One pharmacist in Alabama sold his store to become a distributor of our products because, he said, "there is nothing in my pharmacy that will do what your aloe does".

Searching at the medical school library, I found that aloe vera was used by physicians for 3,000 years until the 1900's when synthetic drugs replaced herbs, plants, and other natural medicines. Although doctors no longer used aloe, people in warm climates continued to grow it. They took aloe gel internally to relieve various forms of intestinal discomfort, aching joints

and other chronic conditions, and used it externally to moisturize skin and soothe insect bites, cuts, burns, sunburn and other injuries. It had long been called the "medicine plant". Despite these facts, no pharmaceutical company seemed interested in doing research to determine what was in it that offered such a wide range of benefits. They refused to invest research dollars in natural ingredients, no matter how effective, since they would not be patentable.

By 1980 it became obvious to me that people throughout the world genuinely needed the unique benefits of aloe vera. But to change the image of aloe from unrecognized "folk medicine" to acceptance by the general public and professions, I knew, would require spending millions to find the single active molecule in aloe, then prove it was safe and effective, and then obtain approval by the government to market it.

However, someone needed to do it. I made the decision – a decision that ultimately changed the lives and healthcare practices of many people. I decided my company would be the one to find the mystery ingredient in aloe – the 3,000 year old "medicine plant".

To start the project, I went to Dr. Andres Goth at Southwestern Medical School to conduct preliminary studies. Then in 1981, I hired a small team of scientists, Dr. Bill McAnalley, Dr. Ivan Danhoff, and Dr. Alexis Eberendu, and opened the Carrington research laboratory with the very latest analytical equipment. I introduced them to aloe vera, explained how the leaves were processed, how the products were made, and described the many testimonials from people who had been helped by aloe. I asked our team

of scientists to find the unknown ingredient in aloe vera so we could finally make it available to people everywhere.

We even grew aloe on our own 40 acre farm in the Texas Rio Grande Valley, and we tested different varieties of aloe to be sure that the aloe *barbadensis* was the best one.

Four years and millions of dollars later, our team finally isolated the active ingredient in aloe vera. It was a big surprise. It turned out to be, of all things, a type of SUGAR! --- not a simple table sugar, but a group of long chain sugars called mannans. When we reported our finding, a lot of scientists were surprised because in those days most doctors thought that sugars were just a source of energy.

We discovered that the function of the mannan sugars in aloe was far greater than generating energy. We demonstrated that aloe sugars enhance the white blood cells that make up the immune system.\* This began to explain why aloe seemed to provide such a wide range of benefits. It was not the aloe vera that improved so many health problems, it was the activated immune system. In other words, aloe simply provides mannan sugars that feed and excite the immune system.\* Then the immune system performs its normal function to defend against diseases, and treat the sunburn, insect bites, cuts, injuries, etc.

New medical molecules are given their official name by The American Medical Association. I wrote to the nomenclature committee of the AMA describing the long chain acetylated mannan that we had discovered. They responded, naming it acemannan.

We conducted standard safety tests on acemannan as required by the FDA. I introduced a physician friend of mine to the team and asked him to do a clinical trial on humans who had an immune deficiency. He did, and his study showed that the aloe extract enhanced the activity of the immune system so much that blood levels of infectious virus declined.\* We also began outside studies at A&M and opened a branch of the Carrington research lab there. We filed patents, and began to publish peer reviewed papers on our research.

We finally received government approval to market acemannan. It was approved to treat sarcoid tumors in small animals. It was approved as a stimulant to poultry vaccines. We were also permitted to market aloe extract for humans as a hydrogel for the treatment of bed sores, mouth ulcers, and other slow-healing wounds.

Our discovery that the rare mannan sugars played a major role in immune activity stimulated research projects on other sugars around the world. Since then, over 20,000 scientific papers have been published on the functions of sugars. Scientists discovered that mannans have additional functions. The long chain mannans are digested into single chain monosaccharides called mannose, which itself has a major function. Mannose is a tiny molecular

structure like a “Christmas tree” to which seven other sugars become attached like ornaments on the tree. Together these eight sugars form tiny glycoforms which cover the surface of cells. The term “glyco” is Greek for “sweet”. Once thought to be insignificant, glycoforms are now known to serve vital functions in the cells.

### What do Glycoforms do?

1. They cover the surface of all cells and like tiny telephones they enable cells to transmit vital instructions from one cell to another.\* Without cellular communication no part of the body could function.
2. They enable countless important chemical reactions within the interior of the cells, and must be present for normal growth, development, and health maintenance.\*
3. They support the optimum immune function which is the body’s first line of defense against most diseases.\*

A glycoform is made up of eight monosaccharides (sugars): 1) mannose, 2) galactose, 3) fucose (not fructose), 4) xylose, 5) glucose, 6) sialic acid, 7) N-acetylglucosamine, and 8) N-acetylgalactosamine. They must all be present at the same time to create a glycoform.

You need to know, that only two of the eight sugars are usually found in typical modern diets, glucose and galactose. The body has the ability to manufacture sugars from these two, but mannose, the major sugar that provides the “tree” structure, to which the others attach, is particularly rare.

### Are Glyconutrients Medicines?

No. As nutrients, they do not treat any disease. Glyconutrients are sugar-based compounds that feed cells the nutrients necessary to make glycoforms and other important compounds.

### If glyconutrients are not medicines, why do so many people improve?

All of the necessary glyconutrients are often missing in a typical modern diet. We believe that the benefits often experienced after people begin taking glyconutrients result from the availability of a more complete range of nutrients that allow the body to make a greater number of glycoforms which result in the improved performance of the glycoforms, with improved cellular communication, and a more responsive immune system.\*

I was always confident that we would discover how aloe works and expand its acceptance and use. However I never dreamed that the decision I made in 1980 and the research that we conducted over the following years, in which we discovered the immune function of mannose sugars, would play a large part in launching an entire new scientific field called GLYCOBIOLOGY and a new class of nutritional products called GLYCONUTRIENTS.

Glyconutrients are nutritional compounds that are entirely different from vitamins, minerals, antioxidants, fatty acids, enzymes, coenzymes and other traditional nutrients. But glyconutrients are extremely important and they are not sufficiently present in a typical modern diet. The only way to be sure you consume a complete range of glyconutrients is to take them in supplements.

Once you realize the results people are experiencing by taking glyconutrients you will want to be sure you take them too.

*\* These statements have not been evaluated by the Food and Drug Administration. These products are not intended to diagnose, treat, cure, or prevent any disease.*

*As you will notice, the name of your RBC monthly newsletter has been changed to recognize the broader scope of RBC research, technology, and life science products.*

## NOW FOR THE BIG NEWS!

You will be happy to know that we at RBC have been getting ready for this new class of glyconutrients for you for sometime. We have already included glyconutrients in two of your RBC products formulated in the past two years.



### 24Seven Life Essentials

#### *Nutrition Throughout the Day*

24Seven Life Essentials is a superb source for all the eight monosaccharides necessary to form glycoforms from natural whole foods sources in fruits, berries, organic spirulina, a blend of herbs, kale, and of course aloe vera.

Moreover, recent studies have shown that in addition to the monosaccharides, healthy cells also need long chain sugars called polysaccharides.

24Seven Life Essentials also provides a number of these polysaccharides.

Finally, what sets 24Seven apart from other daily supplements is that 24Seven also provides the vitamins, minerals, and other nutrients that you need at the same time and place that must be present to utilize the glyconutrients.

**Just recommend to your customers: for complete daily nutrition including glyconutrients, take a packet of 24Seven Life Essentials with each meal.**

**However, if your customer has health challenges and wants to see if additional glyconutrients might help, then he or she can add two capsules per day of Immune 360, a concentration of immune supporting glyconutrients.**



### Immune 360

#### *A Glyconutrient Immune Supplement*

Immune 360 adds another dimension to RBC’s glyconutrient products. It also provides all of the eight essential sugars needed to make glycoforms. These also are present in natural form from Larch, organic spirulina, ashwagandha root, maitake mushroom and aloe vera gel.

In addition Immune 360 provides long chain polysaccharides.

Furthermore, Immune 360 provides the vitamins and minerals, ellagic acid, and other nutrients that should be present at the same time to enable the formation and utilization of the glyconutrients.

Adults can take at least two capsules per day.

### Do YOU need to take glyconutrients every day?

It has been shown that the glyconutrient structure, based on mannose, is vital to activities in your cells that operate 24 hours every day of your life.\* Anytime that you fail to feed your cells with the nutrients that they need, you may be inhibiting normal healthy functions.

In conclusion, you now have all the glyconutrients in each one of two RBC products. You can be confident that you are providing your customers products that meet all of the very latest research in glyconutrition.

We are very proud to have created the research that helped to launch this new field of glyconutrients by discovering the mannans in aloe. You now have the real story behind glyconutrients and as an RBC Associate it is your story too.