



## **STRUCTURE AND QUALITIES OF THE ALOE VERA PLANT**

### **THE ACTIVE QUALITIES OF ALOE VERA**

The aloe vera plant has three layers to each leaf which are filled with nutrients; the leaf or outer rind, the inner gel, and the aloin or thin, slimy mucilage layer commonly known as the “yellow sap”. Aloe vera contains 18 amino acids, plus vitamins A, B1, B2, B3, B6, C, and E. The aloe vera plant also contains sodium, potassium, calcium, phosphorus, magnesium, and chloride, as well as traces of magnesium and zinc. In addition to these major constituents, the aloe vera plant contains numerous other naturally occurring vitamins and minerals.

### **SAFETY OF ALOE VERA PLANT PRODUCTS**

While aloe researchers report that the aloe vera plant contains over 200 biologically active constituents, the aloe polysaccharide is the main naturally occurring active constituent in aloe vera that allows all of the benefits to be activated in the body. Polysaccharides are safe in all toxicity studies, showing no side effects.

### **POLYSACCHARIDE IMPORTANCE**

In the makeup of the total solids found in the aloe vera plant, polysaccharides represent approximately 20-25% of the solids in aloe vera. Most commercially produced aloe vera products contain very little polysaccharides because they are destroyed in the processing by heat and enzymes. When they are broken in processing, they become simple sugars, and the body will not absorb them.

### **THE ROLE OF MOLECULAR WEIGHT**

The glycol-nutrients in aloe vera are sugar molecules linked together like a string of beads. The size varies based on molecular weight from 10,000 daltons to 7 million daltons:

- Lower dalton weights (10,000 – 100,000) are most effective for supporting skin regeneration.
- Higher dalton weights (100,000 – 7 Million) are most effective with immune, anti-inflammatory, and absorption support.
- The highest molecular weights ever studied from the aloe vera plant were the aloeride polysaccharides from 4 million–7 million dalton weight found in Lily of the Desert aloe vera juice.
- The higher molecular weight polysaccharides are found in the aloe vera inner gel while the highest total polysaccharide (volume) is found in the whole leaf aloe vera.

### **THE EFFECTIVENESS OF THE ALOE VERA PLANT**

Aloe polysaccharides are very efficacious both orally and topically. It is important that aloe products have the full range of polysaccharides to provide maximum health benefits. Scientific studies confirm that aloe vera contains approximately 200 naturally occurring biologically active constituents.