



# BROMELAIN

The extra strength pineapple enzyme

## BROMELAIN – THE PINEAPPLE ENZYME

Bromelain is a proteolytic enzyme that breaks down proteins into the various amino acids during digestion. But bromelain does more. Studies show that bromelain has anti-inflammatory ability, a role in allergy control and antibiotic activity. "It is effective in virtually all inflammatory conditions, regardless of cause..." (Murray) It even has a role in weight reduction. Bromelain is isolated and concentrated from the stem of the pineapple plant. Like most other enzymes, its enzyme activity level can be measured. Because bromelain must be extracted, manufacturers have been able to concentrate it in various strengths. GDU (gelatin digesting units) and MCU (milk clotting units) are two standard ways to describe enzyme activity. The measurement of activity is based on how much one gram of the enzyme will digest. The higher the number of GDU's and MCU's, the greater the enzyme activity.

## HOW CAN YOU CHOOSE A BROMELAIN PRODUCT?

How do you know which bromelain product will be effective? Each unit of enzyme activity could be likened to a key and a lock – the more keys or enzyme activity, the more locks can be unlocked, or in the case of bromelain, the greater amount of digestive power it would have. There are many products that say, "Bromelain – 500 mg" on the label. This is merely descriptive of the weight of the capsule or tablet. It does not tell the enzyme activity or the real potency of bromelain. A product must have its enzyme activity stated on the label to properly compare the "real" potency of bromelain in conjunction with the amount or weight of bromelain per capsule or tablet.

Bromelain can be purchased in strengths ranging from 80 GDU/120 MCU to 1,000 GDU/1,500 MCU and higher. We can see from this that a product produced from the lower potency strength (80 GDU/120 MCU) is over 12 times lower in potency or enzyme activity than a product produced from 1,000 GDU/1,500 MCU Bromelain. Natural Factors has produced an "extra strength" 1,000 GDU/1,500 MCU bromelain – 500 mg per capsule.

## WHAT ARE GDU'S AND MCU'S?

The specific activity of an enzyme is expressed as units of enzyme per milligram or gram and protein (gelatin). It can also be referred to as the number of molecules of substrate (or any substance acted upon by an enzyme) transformed per molecule of enzyme. The total number of grams of protein digested by the enzyme can be quantified in a

laboratory environment, but it is a rather complex calculation. A consumer can be assured by the labelled potency of the enzyme, that the product has been previously assayed. The consumer has no assurance of the quality and potency of the product if enzyme activity is not labelled.

Milk Clotting Units refer to the ability of an enzyme to clot a liquid. During the digestive process the liquid is turned into a gelatinous or semi-fluid substance. Milk is used as a medium to measure this enzyme activity test.

## KEY REFERENCES

Murray M.T., "The Healing Power of Herbs: The Enlightened Person's Guide to the Wonders of Medicinal Plants," Prima Publishing; 1991

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