

## BACKGROUND INFORMATION

Over the past several years high protein / low carb diets have become very popular. These types of diets, once considered fads, are fast becoming lifestyles. Many people may not be consciously practicing these diets but nevertheless are eating more protein and cutting down on carbohydrates. Unfortunately, many people also regularly use antacids and/or acid blockers that impair protein digestion in the stomach. Undigested protein in the human gastrointestinal tract can not only cause minor discomfort such as bloating, gas, constipation, etc, but can also be detrimental to overall health. Intact protein in the large intestine can be fermented by intestinal flora into harmful toxins such as branch chained fatty acids, ammonia, phenolics, and hydrogen sulfide. These toxins can be absorbed into the body and could be the genesis of many systemic diseases. Hence it is imperative that all the protein that is ingested be properly digested and absorbed by the body.

BioCore<sup>®</sup> Pro is an ideal composition of proteases that is designed to optimize protein digestion. It is formulated with various different proteases that have been carefully selected for their specificity and functionality. BioCore<sup>®</sup> Pro can be added to BioCore<sup>®</sup> Optimum for enhanced digestion of high protein diets. The table below lists the various protease activities of BioCore<sup>®</sup> Pro. BioCore<sup>®</sup> Pro is formulated with HUT, SAP, PC as well as aminopeptidase activity to ensure the proper breakdown of different sources of protein.

BioCore<sup>®</sup> Pro has also been subjected to pH, temperature and

Supplement Facts	
Serving size: 50 mg	
Amount per serving	% DV
BioCore <sup>®</sup> Pro	50 mg
Protease (from <i>Aspergillus oryzae</i> )	21,250 HUT *
Protease (from <i>A. oryzae</i> )	1.8 AP *
Protease (from <i>Aspergillus niger</i> )	50 SAPU *
Protease (from <i>Bacillus subtilis</i> )	4,000 PC *

\*Daily Value not established

Table 1

gastric survivability studies. The stomach is of paramount importance in the initial breakdown of protein. NEC's Product Development Team was cognizant of that fact and formulated BioCore<sup>®</sup> Pro to have optimum activity in the acidic environment of the stomach. Figure 1 describes the pH profile of BioCore<sup>®</sup> Pro. The graph shows maximum activity in the acidic region. BioCore<sup>®</sup> Pro also displays substantial activity in the neutral region of the graph which represents the pH of the small intestine. The formulation of proteases in BioCore<sup>®</sup> Pro represents digestion of protein not only in the stomach but also in the small intestine.

Experiments were also conducted to test the resistance of BioCore<sup>®</sup> Pro to stomach acid. The product was incubated in stomach juices at pH 2 which also contained pepsin. Figure 2 shows the results of those studies. The proteases in BioCore<sup>®</sup> Pro maintain activity after exposure to the conditions typically found in the stomach.

BioCore<sup>®</sup> Pro is a blend of proteases designed to enhance digestive enzyme products that are geared towards high protein / low carb diets. It contains specially selected proteases that are active throughout the gastrointestinal tract and can completely break down proteins in conjunction with the body's own enzymes.

*The information contained in this rationale is intended for educational purposes only. It is neither to be used to market or advertise a product nor to make labeling claims. The FDA and FTC have strict regulations concerning how information can be used in promoting a dietary supplement, and it is recommended that adherence to these regulations be followed.*

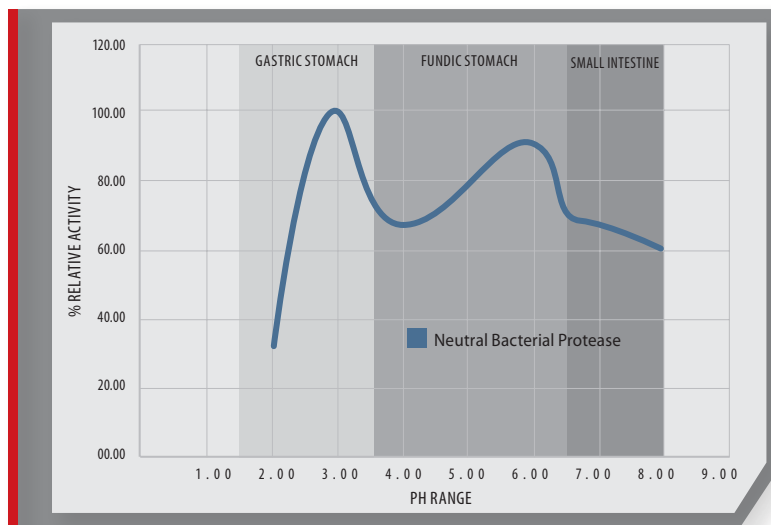


Figure 1