

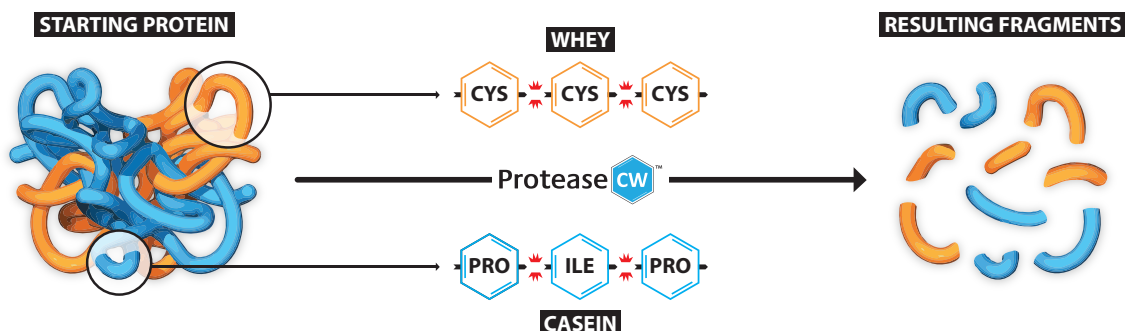
Protease CW™

Promotes Complete Digestion of Dairy Proteins

ProteaseCW™ is a proprietary blend of proteolytic enzymes precisely formulated to assist the body's own digestive enzymes in thoroughly breaking down hard-to-digest casein and whey proteins found in dairy foods and protein supplements. Select ProEnzol® products contain ProteaseCW™ to help enhance the nutritional value of casein and whey-containing foods/supplements while lowering the risk of dairy protein intolerance.*

There are large amounts of two proteins, casein and whey, in dairy products such as milk, cheese, yogurt, and ice cream as well as in popular protein powders and meal replacement drinks. Properly-digested dairy proteins provide essential amino acids and a wide variety of beneficial bioactive peptides. The digestibility of dairy proteins determines not only the nutritional value of the food or supplement, but also the body's ability to tolerate it. Intolerances to casein and/or whey, which are often mistaken for an intolerance to dairy lactose, can cause gastrointestinal distress such as bloating, nausea, abdominal pain, and/or diarrhea and, in some cases, more serious immune responses. Avoiding dairy foods altogether may seem like an easy solution to the problem. However, casein and/or whey are often used for nutritional or processing purposes in other common foods, medications and dietary supplements and may not be clearly identified on the label.

The complex combination of highly purified enzymes found in ProteaseCW™ provides the right proportions of acid stable and neutral proteases plus peptidases specifically chosen for their synergistic ability to cleave dairy proteins at multiple bond locations yielding smaller peptides and single amino acids. Casein contains amino acid sequences that are unusually high in the amino acid, proline. These proline-dense regions exhibit structural features that cause folding and helical cross-linking of the protein, preventing hydrolysis by the body's gastric, pancreatic and intestinal brush border proteases. The peptidases found in ProteaseCW™ exhibit substantial DPP-IV activity capable of hydrolyzing the difficult proline bonds in casein. The other major dairy protein, whey, primarily contains beta-lactoglobulins and alpha-lactalbumins which are resistant to hydrolysis by gastric pepsin. Their compact globular structure and numerous disulfide bonds hinders easy access to the protein sites specific to pepsin action. The unique blend of proteases in ProteaseCW™ exhibits a wide range of bond specificity at various pH levels so it is capable of optimal effectiveness in the acidic conditions of the stomach.* These proteases begin their digestive action immediately upon arriving in the stomach, continuing to hydrolyze whey and casein before it reaches the intestinal mucosa where, if left undigested, can stimulate an inflammatory immune response.*



ProteaseCW™ splits the bonds between proline and other amino acids in casein and the disulfide bonds between two cysteines in whey creating protein fragments more accessible to further enzymatic digestion.

FOR MORE INFORMATION AND COMPLETE REFERENCES VISIT ENZYMESINC.COM