



## Collatrim

Stock #3065-4 (180 capsules)

Collatrim is a unique protein supplement that supports the collagen structures of the body, improving joint function and strength and enhancing skin health and tone. In addition, Collatrim facilitates weight-loss by promoting the building and toning of lean muscle tissue and increasing the body's fat-burning processes.

Collatrim provides a high-quality source of protein, derived from hydrolyzed bovine collagen. Protein supplements which are hydrolysates—predigested proteins—provide amino acids in a form that is readily absorbed into the body's protein stores. Protein deficiency can lead to numerous health problems, including fatigue and weakness, lowered resistance to colds and infections, water retention, and loss of muscle and skin tone. Plus, recent research confirms that insufficient protein intake inhibits the synthesis of bone-matrix proteins, which can lead to decreased bone mineral density and the development of osteoporosis.<sup>1-4</sup>

The most abundant protein in the body is collagen, which is essential for maintaining the health and strength of connective tissues such as cartilage, ligaments and tendons. In many cases, the breakdown of joint cartilage may be able to be stopped or even reversed by enhancing the repair and regeneration of connective tissue. Collagen, combined with elastin, also provides the skin's strength, smoothness and elasticity. Since collagen is replaced quite slowly, individuals with inadequate protein intake (which reduces collagen synthesis) often experience sagging of muscles and skin over time, due to the loss of collagen.<sup>2,5,6</sup>

Collatrim's health benefits also extend to weight-management. As noted above, Collatrim is a rich source of amino acids, several of which support the building and toning of lean muscle tissue and promote weight-loss.

*Arginine* is needed for the production of body tissues such as collagen and elastin, as well as the production of insulin and hemoglobin. In recent years, several American researchers have studied the use of arginine for enhancing weight-loss and muscle building, since arginine promotes fat metabolism and the production of growth hormone. Specifically, arginine appears to facilitate both an increase in muscle mass and a decrease in body fat. Furthermore, increasing growth hormone production in adults has been shown to enhance the breakdown of fat stores and the building and toning of muscle tissue.<sup>3,7-9</sup>

*Glycine*, along with arginine, promotes the healing of damaged tissues, especially the skin and connective tissue. Glycine and arginine are also utilized by the body to synthesize creatine. Increasing levels of creatine in the body has been shown to improve lean muscle mass and strength, and to reduce the degeneration of muscle tissue, a process which is characteristic of low-protein intake and the aging process. Furthermore, Japanese researchers have determined that glycine is a stimulatory agent for the release of growth hormone.<sup>3,8,10-12</sup>

*Proline*, a primary constituent of collagen, is vital for skin health. Proline is transformed by the body into hydroxyproline and then incorporated into the collagen structures of ligaments and tendons. Researchers in California suggest proline enhances the integrity of collagen and may benefit processes for cosmetically improving skin texture and sagging tissues (resulting from aging). Proline supplementation, combined with vitamin C intake, multiplies proline's effectiveness for improving collagen structures.<sup>8</sup>

In addition, Collatrim supports the burning of fat stores for energy—a process known as thermogenesis. Collatrim achieves this effect by maintaining levels of the hormones insulin and glucagon, in a ratio that promotes thermogenesis. Insulin increases glucose uptake by the cells and also functions as a key component for stimulating thermogenesis. In contrast, glucagon facilitates the release of glucose into the bloodstream. When there is a lack of sufficient insulin, or when cells become insensitive to the effects of insulin (either of which can result from imbalanced levels of insulin and glucagon), thermogenesis is inhibited. Thus, Collatrim helps to maintain levels of these hormones to best enhance fat-loss.<sup>6,13</sup>

Collatrim can be taken daily with meals to improve joint function and strength and to enhance skin health and tone.

For effective weight-loss results, Collatrim should be taken before sleep at night, during which time the body uses its nutrients to rebuild and strengthen lean muscle tissue. During the first few hours of sleep, the body typically enters a state of anabolism—the building up of tissue. Afterward, the body shifts into a period of protein breakdown (catabolism), due to changes in hormone levels and the decline of anti-catabolic factors from prolonged fasting

during sleep. Thus, taking Collatrim at night helps to increase overall protein levels in favor of muscle tissue growth.<sup>14,15</sup>

Collatrim's protein source—hydrolyzed bovine collagen—is a concentrated blend of protein and amino acids, particularly arginine, glycine, and proline. NSP uses only the highest quality bovine collagen, insuring its purity from hormones and steroids.<sup>15</sup>

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