

## Colostrum and Congestive Heart Failure



**Dear consumer,**

Your inquiry regarding the use of high quality bovine colostrum in association with congestive heart failure has been forwarded to me. I am a business and technology consultant with extensive knowledge regarding the formation and composition of bovine colostrum and its health-related applications in humans and animals.

Congestive heart failure is a multiple etiology, high prevalence, poor prognosis disorder. Medical treatment of dilated cardiomyopathy is aimed at alleviating acute heart failure.

Growth hormone (GH) and insulin-like growth factor-1 (IGF-1) are involved in many physiological aspects, including the control of muscle mass and function, body composition and regulation of metabolism. The roles of GH and IGF-1 as modulators of myocardial structure has been well established (see references listed below). Receptors for both GH and IGF-1 are expressed by cardiac tissues and, therefore, it is highly likely that GH may act directly on the heart, whereas IGF-1 may act by endocrine, paracrine or autocrine mechanisms. Animal models of pressure and volume overload have demonstrated reduction of cardiac IGF-1 production and expression of GH and IGF-1 receptors, implying that regulation of these factors is influenced by hemodynamic changes. Moreover, studies suggest that GH and IGF-1 have stimulatory effects on myocardial cells, possibly mediated by intracellular calcium handling. It has been shown that administration of GH can induce an improved hemodynamic and clinical status in some patients.

Complete first milking bovine colostrum, which is the basis of all products sold by Immune-Tree, is an excellent resource for both GH and IGF-1 providing that the colostrum used is properly processed to retain the bioactivity of its components. In humans, many of the substances necessary for development and survival of the fetus are transferred across the placental barrier. In sharp contrast, in bovines none of the substances necessary for development or to afford interim protection against pathogens are transferred across the placenta. In order to receive an adequate quantity of these substances, the calf must either nurse extensively during the first 8-10 hours after being born or be hand-fed at least 2 quarts of colostrum. As such, bovine colostrum is a rich resource of many biologically-active substances that have been shown to be safe and effective for humans.

Studies recently completed at a major Endocrinology Diagnostic Laboratory clearly demonstrated that the colostrum products from Immune-Tree contain a significant quantity of IGF-1 and that the amount present is substantially greater than that found in competitor products.

It is very, very important to recognize that all colostrum products are not the same and, despite the claims made by their manufacturers, they do not all contain every beneficial component at an

optimum concentration and, in many cases, they have been manipulated and may be missing some of the essential components. When choosing a colostrum product, you should be certain that it is made from only first milking bovine colostrum collected within 8-10 hours after birth of the calf and that the colostrum is "complete" and that none of the components have been removed, including the fat.

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To your good health - always.

Sincerely,  
**Alfred E. Fox, Ph.D.**

*Dr. Alfred E. Fox holds a Ph.D. from Rutgers University in Microbiology (Immunochemistry) and has more than 25 years of senior management experience at Carter-Wallace, Baxter Dade Division and Warner-Lambert, where he was responsible for research and development and regulatory affairs. He was also the founder and president of two biotechnology companies focused on agribusiness and environmental monitoring, respectively. For the past 15 years, Dr. Fox has been the President of Fox Associates, a business and technology consulting firm serving small- to mid-size companies in the human and animal healthcare fields. He focuses primarily on marketing and regulatory issues and for the past 10 years has continuously consulted to bovine colostrum manufacturers, where he has gained regulatory approval for their products, been a technical advisor, helped design and develop marketing strategies and served as an expert witness in legal matters.*

