ADSA’s *Journal of Dairy Science* Study Shows Lactoferrin, a Whey Protein, Reduces Breast Cancer Cells

Champaign, IL, Dec. 21, 2010—Scientists have found that lactoferrin—a whey protein found in milk—could be an anticancer agent for breast cancer. Lactoferrin is an iron-binding protein that has been reported to inhibit several other types of cancer. According to a study published in the January 2011 issue of the American Dairy Science Association’s *Journal of Dairy Science*, scientists in Portugal found that breast cancer cells treated with lactoferrin decreased the cancer cells’ viability by 47-54% and decreased the growth rates of the cancer cells by 40-64%.

“There is overwhelming evidence that biologically active food components are key environmental factors affecting the incidence of many chronic diseases,” said Lígia Raquel Rodrigues, author of the study and member of the American Dairy Science Association. “However, because the full extent of such components in our diet isn’t known, nor is the understanding of their mechanisms of action, we undertook this study for a closer look.”

While additional studies will be needed to establish a clear role for lactoferrin as a potential tool in fighting breast cancer, the results from this study suggest that lactoferrin interferes with some of the most important steps involved in cancer growth.

**The science particulars**

In this particular study, the effects of bovine milk lactoferrin on human breast cancer HS578T and T47D cells were studied. The cells, which are cultured in a laboratory, were either untreated or treated with lactoferrin concentrations ranging from 0.125 to 125 μM. A 12.5 μM concentration of lactoferrin decreased the cell viability of HS578T and T47D by 47 and 54%, respectively, and increased apoptosis (cell death) about 2-fold for both cell lines. Proliferation rates decreased between 40 and 64% for HS578T
and T47D, respectively. For the T47D line, cell migration decreased in the presence of the protein.

**About the American Dairy Science Association**

Founded in 1906, the American Dairy Science Association® (ADSA®) is an international organization of educators, scientists and industry representatives who are committed to advancing the dairy industry with a keen awareness of the vital role the dairy sciences play in fulfilling the economic, nutritive and health requirements of the world's population. ADSA publishes the Journal of Dairy Science®, the top-ranked, peer reviewed dairy science journal in the world.

The organization provides scientific leadership and technical support to sustain and grow the global dairy industry through the generation, dissemination and exchange of information and services. Members of ADSA have discovered new methods and technologies that have revolutionized the dairy industry helping provide consumers with a safe, affordable supply of nutritious dairy products.

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