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Gene Marker Detects Early and Late Stage BSE

Published Study Supports BSE Eradication Strategy Using a Living Test

Göttingen, Germany - July 8, 2005 — A peer-reviewed publication released today in *CLINICAL AND DIAGNOSTIC LABORATORY IMMUNOLOGY* describes the results of an in-house clinical study of a living test, the Göttingen Living Test (the GLT), for the detection of cattle at risk for developing bovine spongiform encephalopathy (BSE) or “mad cow disease.” BSE is both a public health and an economic issue. The total cost of BSE per year is estimated at 650 million Euros in Germany and several billion Euros worldwide.

At this time, the only available BSE tests are *post mortem* tests performed on brain tissue from dead cattle. Additionally, all currently used tests detect misfolded forms of proteins called prions, which are not found in an animal until BSE has progressed into late-stage disease. The GLT (Chronix Biomedical, GmbH) differs from currently used tests in that it is performed on live animals, requires only a small sample of blood, and detects specific gene markers associated with early- as well as late-stage disease.

In today’s published study, the GLT detected unique, specific gene markers in all 4 cows with confirmed BSE (100%) and in 65% of 135 cattle from groups of associated high-risk animals (BSE feeding cohorts). In contrast, only 0.6% of the control group of over 800 healthy animals tested positive on the GLT. This significant association of the unique gene markers with BSE-confirmed and at-risk cows supports the concept of using the GLT for identifying at-risk cohorts in BSE eradication and surveillance programs throughout a herd’s life. The GLT should increase the level of public health safety by eliminating all BSE risky animals, minimizing the downtime a slaughterhouse must incur when a BSE case is detected in its facility, culling cows at an early age thereby minimizing the economic hardship to cattle growers, confirming that cattle raw materials used for food and drugs are risk-free, and allowing cattle exporters to safely send beef across international borders.

“The discovery of genetic markers in risky cows allows us to remove both early- and late-stage BSE cattle from the farms before they reach the food chain,” said Prof. Dr. Dr. Bertram Brenig, the study’s corresponding author and Director of the Institute of Veterinary Medicine.

“We modeled this eradication approach on programs used to control another animal prion disease in sheep called scrapie,” said Howard Urnovitz, PhD, study co-author and CEO of Chronix Biomedical. “The genetic identification of living animals at risk for developing scrapie is the approach used in the worldwide control of this sheep prion disease. Our next step is to test large numbers of animals in countries affected by mad cow disease to show that genetic identification of BSE can also be used to help control a prion disease in cattle.”

For more detail, please visit: <http://www.tieraerztliches-institut.uni-goettingen.de>