

# **BIO-INVESTIGATIONS LTD.**

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NEWS RELEASE

## **EDS: FOUR-WAY INTERNATIONAL AGREEMENT TAKES CHICKEN INTERFERON PROJECT WORLDWIDE**

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**MADISON, CT United States of America** - - Stewart Rosenberg, President of BIO-INVESTIGATIONS LTD., announced that a four way agreement has been signed between Commonwealth Scientific and Industrial Research Organisation (CSIRO), headquartered in Canberra, Australian Capital Territory, Australia; The University of Connecticut (UCONN), with its main research facility located in Storrs, Connecticut; EMBREX, INC., headquartered in Research Triangle Park, North Carolina; and BIO-INVESTIGATIONS LTD.

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## FOUR-WAY INTERNATIONAL AGREEMENT .....

CSIRO and UCONN have each, independently, developed aspects of chicken interferon technology that may represent a likely alternative or adjunct to vaccines as a means of combating virus infection within poultry. Interferons represent a family of cytokines with a wide range of biological effects, including their action as antiviral agents and as modulators of the immune system. In contrast to antibodies elicited by vaccines, IFN may protect cells from the lethal action of a broad spectrum of viruses even after those viruses have entered a cell. In the past, chicken IFN has not been available in sufficient quantities to assess its efficacy as an antiviral or immunomodulatory agent. The scientists at UCONN are Dr. Margaret Sekellick and Dr. Philip Marcus of the Department of Molecular and Cell Biology, and the principal scientist at CSIRO is Dr. John Lowenthal of their Division of Animal Health.

The Agreement allows EMBREX, INC. certain rights to the in-ovo (i.e.; "in the egg," or "pre-hatch") applications of the interferon technology developed at both CSIRO and UCONN. EMBREX, INC. has developed the only commercial in ovo automated egg injection system, eliminating the need for manual vaccination of newly hatched broiler chicks. In just three years, EMBREX is injecting over 66% of the birds raised in the U.S. market and is expanding internationally. Its patented INOVOJECT<sup>R</sup> system inoculates 100% of chicks three days prior to hatch versus the post-hatch manual injection method. EMBREX's goal is to be the leading worldwide supplier of in-ovo delivery systems and in ovo biological and pharmaceutical products to the global poultry industry.

CSIRO is Australia's national science organization and is involved in a wide area of research. CSIRO began its operations in 1926, and in 1949 became an independent statutory authority in Australia under the Science and Industry Research Act. Today, they have a staff of more than 7000, including nearly 3000 scientists, working in laboratories and field stations around Australia. Their focal areas include agriculture, minerals and energy, manufacturing, communication, construction, health and the environment.

The University of Connecticut is a public institution of higher education and is Connecticut's only public research university. Through its main campus in Storrs, CT and its health center and medical school facility headquartered in Farmington, UCONN conducts extensive research in the fields of both basic and clinical human medicine, veterinary sciences, biotechnology, engineering, and a wide array of applied sciences. In 1995, UCONN received approximately \$50 million from the federal government for research and nearly \$7 million from industry.

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"This is an extremely important collaboration," said Rosenberg. "Poultry production is impacted by numerous avian viruses that affect the performance, viability, egg-laying capacity, and fertility of birds. Consumers spend approximately \$25 billion in the U.S. per year on poultry, and globally the industry generates in excess of \$75 billion of consumer spending. In 1990, poultry surpassed beef as the most consumed meat in the United States. Approximately \$1.7 billion is spent globally on vaccines and poultry health products each year."

BIO-INVESTIGATIONS LTD. is a venture capital consultancy heavily focused in the fields of human and veterinary health care, maintaining relationships with universities and corporations worldwide. The firm often takes positions in innovative technologies in the form of exclusive options or worldwide exclusive licenses.

"This is both a major success and a significant opportunity for CSIRO, UCONN, and EMBREX, INC.," Rosenberg added. "More importantly, the applications of the technology covered by this Agreement may have a major impact on the poultry industry worldwide."

Common poultry diseases of economic importance include coccidiosis, Marek's disease, infectious bursal disease, Newcastle disease, infectious bronchitis, hemorrhagic enteritis, mycoplasma, fowl pox, avian influenza, and laryngotracheitis.

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