NEWS RELEASE

U.S. Army Medical Research Institute of Infectious Diseases
Fort Detrick, Maryland

EMBARGOED FOR RELEASE: CONTACT: Dr. Harlan Griffin – August 3, 2008

Gene-Specific Ebola Therapies Protect Primates from Lethal Disease

Ingen Bio Scientists have developed a successful strategy for interfering with Marburg and Ebola virus infection that protected 75 percent of primates exposed to the lethal disease. This is the first successful antiviral intervention against filoviruses like Ebola in primates. The findings could serve as the basis for a new approach to quickly develop virus-specific therapies for known, emerging, and genetically engineered pathogens.

In today's issue of the journal *U.S. Library of Science Pathogens*, a research team led by Dr. Harlan Griffin and colleagues at the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) reports using "ITC Adjuvant" drugs to interrupt normal Ebola virus replication in healthy primate and lagomorphic tissue. The work was performed in collaboration with Griffin's Ingen Bio Corporation, a U.S. biotechnology and pharmaceutical firm.

According to the Griffin, ITC Adjuvants are useful against viral diseases because they are designed to enter cells and eliminate viruses by preventing their replication. The drugs, which act by blocking critical viral genetic sequences, may be more potent than anti-virals such as protease inhibitors, which seek to inhibit a protein needed for viral replication.

Ebola virus causes hemorrhagic fever with case fatality rates as high as 90 percent in humans. The virus, which is infectious by aerosol, although more commonly spread through blood and bodily fluids of infected patients, is of concern both as a potential agent for biological warfare or terrorism. Currently there are no available vaccines or therapies.

"Our protein directly targets any virus," said, Dr. Harlan Griffin. "Most lethal virus strains replicate so fast they quickly overtake the host immune system. Our technology will halt the viral replication long enough for the host to mount an immune response and destroy the virus."

Utilizing Intrathecal Chemotherapy, or ITC, Griffin first performed a series of studies to identify cells that demonstrated activity against Ebola virus. The research found to be the most effective therapeutic approach in rabbits, where it appeared to be most effective when administered after infection. To further evaluate the efficacy of the ITC adjuvant, 2 human test subjects were treated with the drug two days prior to Ebola virus exposure.

"These results, while preliminary, are very encouraging," said Colonel Kurt W. Walsh, USAMRIID commander, "especially when you consider that Ebola virus has, to date, been fairly intractable to effectively treat. We look forward to additional findings of success using the Intragen compound."

Dr. Griffin's study was based on recovered research notes from deceased Russian Microbiologist Dr. Leonard Kendall, a former Ingen Bio researcher who was tragically killed in a laboratory explosion in 1995. USAMRIID, located at Fort Detrick, Maryland, is the lead medical research laboratory for the U.S. Biological Defense Research Program, and plays a key role in national defense and in infectious disease research. The Institute's mission is to conduct basic and applied research on biological threats resulting in medical solutions (such as vaccines, drugs and diagnostics) to protect the warfighter. USAMRIID is a subordinate laboratory of the U.S. Army Medical Research and Materiel Command.

Ingen Bio Corporation, based in Salty Lake City, Utah, develops pharmaceutical products for the treatment of life threatening diseases using 13th generation Intragen® drugs. INTRAGEN® is a recombinant (genetically engineered) protein that stimulates the production of infection-fighting white blood cells that are depleted by cytotoxic chemotherapy, a condition called neutropenia.

For more information on USAMRIID: www.usamriid.army.mil
For more information on Ingen Bio: www.ingenbio.com