

Nexia's Military Biotech Drug Protexia[®] Shows Promise as a Rescue Therapy for Civilian CW Casualties

Montreal, Quebec, Canada, December 14, 2004. Nexia Biotechnologies Inc. (TSX:NXB) announced today that their US & Canadian military biodefense partnerships have yielded early but promising results for the use of Protexia[®] (recombinant human butyrylcholinesterase - BChE) to treat civilian casualties resulting from a terrorist chemical weapon attack. The Protexia[®] program, initiated in 2003, has been focusing on the development of medical prophylaxis for military personnel and 1st responders working in contaminated areas. Protexia[®] is being developed for prophylaxis by Nexia in conjunction with military researchers at the U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) in Maryland and Defence R&D Canada-Suffield (DRDC Suffield) in Alberta. The U.S. Department of Defense has budgeted support for the development of recombinant BChE. Nexia's Protexia[®] is in competition for this funding. Today's announced results show that Protexia[®] can be effective as a rescue treatment, thus adding a new dimension to the existing program.

Rescue therapy (post-exposure treatment) involves treating the casualties of a terrorist chemical weapons attack. Typically victims go to the hospital for medical assistance only after the onset of symptoms of nerve agent toxicity. With conventional therapies, the elapsed time from chemical exposure to start of treatment is critical. The tests conducted at USAMRICD and DRDC Suffield simulated human nerve agent exposure with different skin types and time delays, then tested Protexia[®]'s efficacy when administered by different methods - intravenous (IV) or intramuscular (IM). Multiple lethal doses of the nerve agent VX, the most lethal nerve agent known, served as the toxic challenge. The risk of VX to humans is predominantly via skin or surface exposure; therefore, both military organizations' teams focused their trials on skin factors.

Experimental Results Prove Efficacy

USAMRICD administered Protexia[®] intramuscularly to guinea pigs approximately an hour after they had been exposed to 2X or 5X lethal doses of VX on the skin. Protexia[®] rescued 90% (9/10) of the 2X group of guinea pigs with no lingering toxic effects noted. At the very high 5X level, 4/10 guinea pigs were rescued by the Protexia[®] treatment. In addition, Protexia[®] delayed the time to onset of poisoning symptoms and lessened them when compared to the control groups. This observation is significant because it expands the opportunity to transport casualties and thus allow enhanced treatment outside and within a hospital setting.

DRDC Suffield administered Protexia[®] intravenously into domestic swine that had been previously exposed to 2X lethal doses of VX on the skin. DRDC Suffield used swine because the skin on the ears of these animals closely mimics human skin. Nerve agent was applied topically and gained access to the body across the skin. Protexia[®] rescued 75% (3/4) of the swine. As with the guinea pigs above, Protexia[®] produced a significant decrease in the severity of the signs of poisoning, as well as a delay in their onset, compared to VX-only treated animals.

Protexia[®] Manufacturing and Clinical Batches

These multi-center trials, which required many grams of Protexia[®], were possible because of the scaled-up manufacturing of Protexia[®] produced in the milk of transgenic goats. This level of production is sufficient to support all preclinical studies and cGMP process development. The clinical development program is expected to be regulated under the U.S. FDA's Animal Efficacy Rule.

Terrorist attacks on Tokyo in 1995 documented the limitations of existing medical countermeasures and their deployment. Today's standard of care involves repeated doses of a cocktail of drugs including; atropine, oxime reactivators and anticonvulsants. In the future, the use of biotech breakthrough drugs like Protexia[®] could provide definitive care with a just a single injection.

“Protexia[®]’s effectiveness as an antidote to nerve agent poisoning clearly demonstrates the potential of this new class of drugs to treat victims of terrorist chemical weapons attack”, stated Dr. Thomas Sawyer, Chief Scientist, DRDC Suffield.

“Protexia[®] rescue therapy removes nerve agents directly from the bloodstream by breaking them down into inactive components, rather than just treating the neurotoxic symptoms, as is the case with existing therapy,” stated Dr. Jeffrey D. Turner, President & CEO, Nexia Biotechnologies. “Protexia[®] clearly lessened the severity of nerve agent poisoning and delayed the onset of toxic effects in all animal models.”

Concurrent Announcement

Nexia has today also made certain announcements relating to its year end financial results and other developments. For more information, please visit Nexia’s website at www.nexiabiotech.com.

About USAMRICD

The U.S. Army Medical Research Institute of Chemical Defense (USAMRICD) develops medical countermeasures to chemical warfare agents and trains medical personnel in the medical management of chemical casualties and is a recognized leader in this field. Please refer to USAMRICD’s web site at: <http://chemdef.apgea.army.mil>.

About DRDC Suffield

DRDC Suffield is Canada's centre of expertise in chemical and biological defence. DRDC offers timely technical advice, seminars, training and equipment to counter hazards from the use of chemical or biological agents. Advances in biochemical detection and identification, decontamination and medical countermeasure research continue to see DRDC Suffield as a world-class leader in CB research. DRDC Suffield is one of six defence research establishment of Defence R&D Canada (DRDC). DRDC, an agency within the Department of National Defence, has been keeping Canada in the forefront of defence and national security technology by providing scientific leadership to the Canadian Forces and the Canadian defence industry for more than 60 years. For more information, visit their website at www.drdc-rddc.gc.ca.

About Nexia

Nexia develops and manufactures complex recombinant proteins in the milk of transgenic goats for medical applications. Nexia’s strength is producing proteins that cannot be made commercially using other recombinant systems. The Company’s lead product is Protexia[®], which is funded by a tripartite development consortia consisting of Nexia, and the U.S. and Canadian militaries. Protexia[®] is being developed as a military prophylaxis and as a post-exposure therapy for civilian casualties of domestic terrorist attacks. Protexia[®] is recombinant human butyrylcholinesterase produced in the milk of Nexia’s transgenic dairy goats. Protexia[®]’s capability as a medical countermeasure has been demonstrated *in vivo* to protect animals from multiple lethal doses of a broad spectrum of nerve agent chemical weapons. For more information, please visit Nexia’s website at <http://www.nexiabiotech.com>.

Protexia is a registered trademark in Canada of Nexia Biotechnologies Inc.

Except for the historical information presented herein, matters discussed herein may constitute forward-looking statements that are subject to certain risks and uncertainties that could cause actual results to differ materially from any future results, performance or achievements expressed or implied by such statements. Statements that are not historical facts, including statements preceded by, followed by, or that include the words "believes"; "anticipates"; "intends"; "plans"; "expects"; "estimates"; or similar statements are forward-looking statements. Such statements reflect management's current views and are based on certain assumptions. Actual results could differ materially from those currently anticipated as a result of a number of factors, including risks and uncertainties discussed in Nexia’s filings with Canadian regulatory authorities. An additional business risk associated with the Protexia[®] program relates to the fact that large purchases are expected to be made from a few customers. Changes in demand from these customers could significantly affect our program. There can be no assurance that such development efforts will succeed, that such products will receive required regulatory clearance or that, such products would ultimately achieve commercial success.

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