Ricin vaccine shows promise in pilot study

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A recent study at the Tulane National Primate Research Center showed for the first time that an experimental vaccine could completely protect nonhuman primates exposed to deadly ricin toxin, a potential bioterrorism agent.

Chad Roy, director of infectious disease aerobiology at the Tulane National Primate Research Center, has demonstrated complete protection with a vaccine against ricin toxin in a nonhuman primate. (Photo by Robin Rodriguez)

“This is potentially a game-changer,” said Chad Roy, director of infectious disease aerobiology at the primate center. “This is the first time anyone has demonstrated complete protection with a vaccine against ricin toxin in this advanced of an animal model. Although the vaccine has a considerable way to go for FDA licensure, we have demonstrated through our studies that we can effectively vaccinate to protect against one of the most notorious biological toxins.”

Ricin is a highly lethal toxin derived from the seeds of the castor oil plant. A dose of purified ricin powder the size of a few grains of table salt can kill an adult. Due to its toxicity and the ubiquity of source material, it"s considered a leading bioterrorism threat.

The study, which is considered a proof of concept, is an important step in establishing the efficacy of a vaccine that could be a key biodefense product for

those in the military, law enforcement or first responders who would potentially be at risk for exposure, Roy says.

Private pharmaceutical firm Soligenix is developing the vaccine, called RiVax. The pilot study, which was funded by the National Institutes of Health, was conducted with researchers from the University of Kansas, University of Texas Southwestern Medical School, University of Colorado and the New York State Department of Health.