SACHS 16TH BIOTECH IN EUROPE FORUM

COMPANY: BIOLOGICS RESOURCES LLC, USA

September 11, 2011 demonstrated the ease of Bioterrorism especially by the use of death causing organisms such as anthrax spores as a weapons of mass destruction. Since then it has become essential to develop counter measures against these deadly organisms that can potentially be used as “Biological Weapon of Mass Destruction.

Biological Resources LLC, is developing a new anthrax vaccine which has proven to be far better and protective in animal models. The experiments show that after three immunizations with our conjugate anthrax vaccine significant levels of antibodies in response to both PA and PGA antigens is generated in the mouse immunogenicity studies.

Compared to BioThrax (the current FDA licensed vaccine) antibodies produced in response to PA-PGA vaccines are more functional and potent to neutralize toxin, PA, as seen in the toxin neutralization assays. Also, PA-PGA+PA vaccine formulation with al-hydrogel produces significantly higher antibody compared to BioThrax.

In rabbits, our vaccine candidate induced the highest antibody production and neutralizing antibody response at 42 weeks (6 months) after two immunizations. The PA-PGA+PA vaccine formulations with al-hydrogel produces the highest PA and PGA antibody level and highest neutralizing activity. The neutralizing response was significantly higher than BioThrax at day 14 and 28 and alfa-antibody significantly higher than BioThrax at day 14.

**Pediatric Immune response:** Our goal is to develop an anthrax vaccine that can be used to protect also children. Therefore, we have begun development of a neonatal rabbit model to stimulate the pediatric immune response. Our pilot studies in neonatal rabbits have shown that three week pups develop an immune response after just two immunizations with PA-PGA that increases with a third immunization. Pups generate antibodies to both antigens (PA and PGA) that are neutralizing in toxin neutralizing assays. In rabbit challenge studies we have planned to evaluate the ability of our conjugate anthrax vaccine to protect against aerosolized *B. anthracis* challenge. From these studies we expect to make a vaccine available that will protect both, children and adults.

**Company’s Profile:** Biologics Resources LLC is a privately owned biologics company. It was established in 2011 by Dr. Lallan Giri who has had successful career in biodefense biologics, pediatric vaccines, and biologic therapeutics (antibodies) with multi-national pharmaceutical companies such as Wellcome Pharmaceuticals, Sanofi Pasteur, Glaxo Wellcome, and Emergent Biosolutions, Inc. BRLLC’s expertise are in the areas of vaccine and therapeutics development.

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