



## NEWS RELEASE

### International Joint Venture to Drive Commercialization of Filovirus Therapeutic via Monoclonal Antibodies

Web Site Release

July 29, 2013

**San Diego, CA & Toronto, ON – Mapp Biopharmaceutical (Mapp Bio) and Defyrus Inc.** today announced the formation of an international Joint Venture (JV) to combine their patent portfolios and drug development efforts focused on monoclonal antibody (mAb) drugs for the treatment of viral hemorrhagic fever viruses e.g. Ebola or Marburg viruses. By consolidating two strong drug development programs, the companies create a “*one-stop-shop*” that streamlines drug development, reduces costs (research, manufacturing, clinical trials) and expands program breadth to address biodefense and public health threats.

The JV brings together the best in government/industry partnerships. Mapp Bio is developing MB-003 in collaboration with lead investigator Dr. Gene Olinger, US Army Medical Research Institute of Infectious Disease (USAMRIID) and funding from the National Institutes of Health and the Defense Threat Reduction Agency. Defyrus is developing ZMAb in collaboration with Dr. Gary Kobinger, Public Health Agency of Canada (PHAC) and funding from the Canadian Safety & Security Program of Defense R&D Canada. With this group, the JV will commercialize and market one superior combination mAb drug.

Mapp Bio, Defyrus and their collaborators have each published pioneering in vivo efficacy data showing that monoclonal antibody-based drugs MB-003 & ZMAb specifically bind to the coat proteins of the Ebola virus and clear it from the body resulting in survival from this highly lethal virus. This effective and complete treatment of Ebola infections represents a quantum leap in efficacy that has not been reported with competing Ebola drug candidates. Mapp Bio and Defyrus believe that new combinations of mAbs selected from MB-003 and ZMAb will yield even better medical countermeasures against Ebola. A similar combination strategy is being pursued by the JV for Marburg.

“ZMAb & MB-003 provide fresh treatment options against some of the most feared viral hemorrhagic fever viruses. These are concrete solutions to the public health, biosafety and biosecurity sectors,” said Dr. Gary Kobinger “and this Joint Venture can be expected to accelerate and improve advanced drug development”.

The JV plans to expand its existing manufacturing relationship with Kentucky Bioprocessing (KBP, Owensboro KY). Using a fully automated production system that operates in accordance with good manufacturing practices (GMP), the antibodies are produced in a tobacco plant system. This high performance manufacturing process decreases production time, increases the quantity of antibody produced, and lowers the cost of manufacturing, according to Larry Zeitlin, President of Mapp Bio. For example, KBP can generate a new GMP antibody lot in a matter of weeks to rapidly respond to new bioterrorism threats or natural outbreaks according to Barry Bratcher, Chief Operating Officer of KBP.

“Our joint venture with Mapp Bio combines our product and intellectual property portfolios and harnesses their plant-based manufacturing capabilities to provide the most effective treatment for Ebola virus discovered to date on a cost effective basis.” said Dr. Jeffrey Turner, President & CEO Defyrus,



### **About Defyrus**

Defyrus is a Canadian private, life sciences biodefence company that collaborates with military and public health R&D partners in the United States, United Kingdom, Asia and Canada to develop broad spectrum anti-viral drugs, MAbs and immunopotentiators to improve vaccine performance as medical countermeasures to viral and bacterial infectious diseases.

[www.defyrus.com](http://www.defyrus.com)

### **About Mapp Biopharmaceutical**

Mapp Biopharmaceutical develops novel biopharmaceuticals for the prevention and treatment of infectious diseases, focusing on unmet needs in global health and biodefense.

[www.mappbio.com](http://www.mappbio.com)

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