



Boston University School of Medicine



FOR IMMEDIATE RELEASE

Antibody-based Contraceptive Research Center Awarded to Boston University Led Consortium

October 17, 2018- Investigators from Boston University School of Medicine and Mapp Biopharmaceutical Inc. are heading up a new Contraceptive Research Center (CRC) funded by an \$8M grant from the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (1U54HD096957). The Center, a consortium of academic and for-profit entities, is developing a new contraception method based on the topical use of a potent anti-sperm monoclonal antibody. Antibodies against sperm commonly occur in infertility patients, and the antibodies may cause infertility due to sperm agglutination and mucus trapping. By selectively harnessing this “experiment of nature”, the Center intends to develop a new highly effective and user-friendly contraceptive.

The World Health Organization estimates that 40 percent of pregnancies worldwide are unintended, indicating an unmet need for safe, acceptable, and inexpensive contraceptive methods. Although a large number of hormonal methods are commercially available, approximately half of women using contraception have concerns about using hormonal contraceptives. In addition, there are a large number of sexually transmitted infections (STI) indicating an additional unmet need.

Monoclonal antibodies, because of their versatility, specificity, and safety profile, are promising candidates for multipurpose prevention technology (MPTs) that block pregnancy and STIs. “In the future, a human contraceptive antibody could be used alone or in combination with antibodies directed against sexually transmitted pathogens, to enhance the acceptability, efficacy, and marketability of contraceptive MPT products”, said Prof. Deborah Anderson of Boston University School of Medicine, one of the CRC leaders. The consortium previously developed and clinically evaluated MB66, a vaginal film that contained monoclonal antibodies against Herpes Simplex Virus and HIV.

The CRC is led by Deborah Anderson, Ph.D. (Boston University School of Medicine, Boston, MA; Administrative Lead), Kevin Whaley, Ph.D. (Mapp, San Diego CA), and Thomas Moench, M.D. (Mapp and Mucommune, Chapel Hill NC), and includes investigators from Boston University, Kentucky BioProcessing (Owensboro, KY), Fenway Community Health Center (Boston, MA), Eastern Virginia Medical School (Norfolk, VA), Mucommune, Oak Crest Institute of Science (Monrovia, CA), the University of North Carolina at Chapel Hill, University of Louisiana at Lafayette, DuPont (Palo Alto, CA), and Mapp.

A human contraceptive antibody (HCA) formulated into a vaginal film will be tested for safety in Investigational New Drug (IND) enabling toxicology studies. After filing an IND application with the FDA, the HCA film will be tested for safety and surrogate efficacy in two Phase 1 clinical trials to be performed at Fenway Community Health Center and at Eastern Virginia Medical School.

“Reliable use of contraceptive methods significantly increases their efficacy, so end-user acceptability is key for effective contraception. Consequently, the consortium is focusing on vaginal films as an ‘on demand’ method for intermittent users, and intravaginal rings for longer-term protection”, said Thomas Moench.

Plant and fungal manufacturing platforms for antibodies are being used by the consortium to address cost and scale challenges. “*Nicotiana* (tobacco) derived antibodies were recently evaluated in a phase 1 clinical trial of MB66,” said Kevin J. Whaley. Whaley added, “We look forward to evaluating *Trichoderma*-manufactured antibodies that could meet demands of large, cost-sensitive markets.”



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Mapp Biopharmaceutical, Inc. (www.mappbio.com) was founded in 2003 to develop novel pharmaceuticals for the prevention and treatment of infectious diseases, focusing on unmet needs in global health and biodefense. For media inquiries contact media@mappbio.com.