Volume 1.00: August 12, 2019

Publications of the Week

Treating Ischemia *via* Recruitment of Antigen-Specific T Cells

First Author: Brian Kwee | Senior Author: David Mooney *(pictured)*
Science Advances | Wyss Institute and Harvard University

Ischemic diseases are a leading cause of mortality and can result in autoamputation of lower limbs. The authors explored the hypothesis that implantation of an antigen-releasing scaffold, in animals previously vaccinated with the same antigen, can concentrate T_H2 T cells and enhance vascularization of ischemic tissue. Abstract

Identification, Characterization, and Benefits of an Exclusion System in an Integrative and Conjugative Element of *Bacillus subtilis*

First Author: Monika Avello | Senior Author: Alan Grossman *(pictured)*
Molecular Microbiology | MIT

Through a mutagenesis and enrichment screen, the authors identified exclusion-resistant mutations in the integrative and conjugative elements of the *Bacillus subtilis* gene conG. Using genes from a heterologous but related (ICE), they found that exclusion specificity was determined by ConG and YddJ. They found that under conditions that support conjugation, exclusion provides a selective advantage to the element and its host cells. Abstract

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Awards

Biology Professor Earns Additional NICHD Grant to Study Fertility in Zebrafish

UMass Boston

Within months after receiving a grant from the National Institutes of Health's Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) to look at the connection between the ends of zebrafish chromosomes and infertility, Assistant Professor of Biology Kellee Siegfried *(pictured)* has received another NICHD grant to identify genes important for fertility by studying mutant zebrafish. Read More

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Local News

Legal Fight over Broad Institute's Patent for CRISPR Gene Editing Flares Up Again

Boston Business Journal

The legal battle over a method of altering a person's genes — potentially worth billions of dollars — flared up again this week, with the University of California alleging the Cambridge-based Broad Institute withheld information in an attempt to deceive U.S. patent officials. The Broad has called the claims "baseless" and false. The CRISPR/Cas9 approach is being used by multiple companies with the ultimate aim of cutting out and replacing disease-causing genes in humans. Read More

Model Predicts Cognitive Decline Due to Alzheimer's, Up to Two Years Out

MIT News

A new model developed at MIT can help predict if patients at risk for Alzheimer's disease will experience clinically significant cognitive decline due to the disease, by predicting their cognition test scores up to two years in the future. The model could be used to improve the selection of candidate drugs and participant cohorts for clinical trials, which have been notoriously unsuccessful thus far. Read More

Leap Presents Positive Clinical Results for the Combination of DKN-01 plus Keytruda® and Provides DKN-01 Program Update

Leap Therapeutics

Leap Therapeutics, Inc. has announced that its anti-Dickkopf-1 (DKK1) antibody, DKN-01, in combination with Merck's anti-PD-1 antibody, Keytruda® (pembrolizumab), demonstrated higher survival and objective response outcomes in patients with advanced gastroesophageal junction and gastric cancer whose tumors expressed high levels of DKK1. Read More

A Vaccine to Prevent Opioid Overdose?

Boston Children's Hospital

Dr. Sharon Levy *(pictured, second from left)*, who directs the Adolescent Substance Use and Addiction Program at Boston Children's Hospital, was getting her youngest son ready for school, when her husband Ofer *(pictured, left)*, an infectious disease physician at the same hospital, came to her with an offer. The NIH was soliciting proposals to develop an opioid vaccine. Would she partner with him to seek a grant? Read More

LexaGene Nabs CDC and FDA Approval for New Antibiotic Resistance Test

BioSpace

With increasing concerns over the rise of drug-resistant pathogens wreaking havoc on the healthcare system, a new genetics analyzer diagnostics tool has been developed that can detect antibiotic-resistant genes in a pathogen within just one hour. LexaGene Holdings announced last week that both the Center for Disease Control (CDC), as well as the Food and Drug Association's (FDA) Antibiotic Resistance Isolate Bank, recognized the company as an institution approved to receive samples for testing antibiotic resistance. Read More

Stoke Therapeutics Granted FDA Orphan Drug Designation for STK-001, an Investigational New Treatment for Dravet Syndrome

Business Wire

Stoke Therapeutics, Inc., a biotechnology company pioneering a new way to treat the underlying cause of genetic diseases by precisely upregulating protein expression, has announced that the U.S. Food and Drug Administration (FDA) has granted orphan drug designation to its lead product candidate, STK-001, an investigational new treatment for Dravet syndrome. Read More

NinePoint Medical Announces FDA Clearance for Pancreatic and Biliary Applications of the NvisionVLE® Imaging System

BioSpace

NinePoint Medical, Inc., a transformative medical device company pioneering the use of a real-time optical imaging platform for gastrointestinal applications, has announced that it has received FDA clearance to market the NvisionVLE® Imaging System for use in the pancreas and bile duct.These anatomical indications add to the previously existing esophageal applications for NinePoint's state-of-the-art Optical Coherence Tomography (OCT) imaging platform. Read More

Terminator-Free Template-Independent Enzymatic DNA Synthesis for Digital Information Storage

Wyss Institute

DNA is an emerging medium for digital data and its adoption can be accelerated by synthesis processes specialized for storage applications. Researchers at the Wyss Institute have used a *de novo* enzymatic synthesis strategy designed for data storage, which harnesses the template-independent polymerase terminal deoxynucleotidyl transferase in kinetically controlled conditions. Read More

Mapping the Kinks in Faulty DNA

TuftsNow

This spring, Tufts Professor and Chair of Biology Catherine Freudenreich *(pictured)* and her colleagues identified the signature characteristics of abnormal DNA structures and why they lead to fragility in the genome. While fragile regions of DNA have been known for some time, this study represents a first look at the molecular mechanism that causes the fragility. Read More

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Upcoming Events in Boston

August 13 11:30 PM	**Seminar: Structural Modeling of Tissue-Engineered Heart Valves** MZ02
August 14 12:00 PM	**Current and Future Trends in Oncology Care Delivery** Harvard Medical School Online Webinar
August 15 5:00 PM	**MassBio Regional Mixer: Woburn** Strega Prime Woburn
August 21 12:00 PM	**HCBI Lunch and Learn Lecture Series** Biological Laboratories
August 22 1:30 PM	**MassBio Backyard Bash With World Series Trophies** 300 Technology Square

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