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ABC NEWSLETTER

CURRENT EVENTS AND TRENDS IN BLOOD SERVICES

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Issue #12
April 7, 2017

Manufactured Red Blood Cells Could Be on the Horizon

U.K. researchers are one step closer towards developing manufactured red blood cells (RBCs), potentially on a large scale. A study from the University of Bristol and the NHS Blood and Transplant agency in the U.K. reports engineering of "immortalized" early human adult erythroblasts *in vitro* that can generate a continuous supply of morphologically and phenotypically adult RBCs. The cell line was named Bristol Erythroid Line Adult (BEL-A).

Blood recipients rely on the altruistic nature of donors for a steady supply of transmissible-by-transfusion infection-free and immunologically compatible blood components. Shortages occur in this country and beyond for many reasons—but especially because of inadequate numbers of compatible donors. An effort to manufacture RBCs to overcome shortages in supply and mitigate complications from allogenic transfusions has long been a topic for research and development.

"In previous approaches, we put blood stem cells with growth factors to help them happily mature, and they do divide for a while," said Jan Frayne, PhD, from the University of Bristol School of Biochemistry, "but the hurdle with these is they have a restricted number of cell divisions…so they can only make a finite number of red blood cells."

Previous studies have reported immortalized lines, but with very poor ability to make fully mature, enucleated RBCs. In the new study, BEL-A was engineered from normal human adult bone marrow blood stem cells and immortalized at an early erythroid stage using the Tetracycline-inducible HPV16-E6/E7 expression system (viral oncoproteins) and culturing the cells for four days. On the fifth day, the cells were transferred to a doxycycline-containing medium, that turns on the expression of the E6 and E7 proteins, enabling the cells to proliferate indefinitely. The cells continuously multiplied for 190 days, with a mean doubling time after day 100 of 20 hours. The viral genes are lost when the cells enucleate during maturation in vitro.

Erythroid cells and reticulocytes from BEL-A line were identical to those from peripheral blood CD34+ cultures, as were protein levels during erythropoiesis. The blood group of the BEL-A reticulocytes matched the donor's bone marrow group. Extensive characterization has not revealed any differences between these reticulocytes and *in vitro*-cultured adult reticulocytes functionally, or at the molecular level, and, importantly, no aberrant protein expression was found.

"We need to do more testing. We saw some of them lose their nucleus, but only 30 percent lost their nucleus. We were able to up that figure after tweaking our conditions a bit in the lab, but it will be about three to five years (before a human trial begins)," said Dr. Frayne.

Some of the first uses Dr. Frayne suggested for use of the BEL-A line is research into erythropoiesis and disease mutations as well as studies of host-receptors for parasitic invasions. Another major avenue for research is the use of CRISPR/CAS-9 technology to knock out specific genes or produce rare blood types.

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OUR SPACE

ABC President Martin Grable, CEO of Community Blood Centers of the Carolinas

A Point of View

I made a few brief comments at the conclusion of the ABC Annual Members Meeting. My comments were meant to assure the membership that as the incoming President, I understand ABC must adapt and change at a pace and in proportion to that of our membership; making the most of the resources available at a time we are all resource constrained.

Essential to ABC's change is to focus on activities best undertaken in the interest of all member blood operators in the areas of greatest impact and importance. To that end, I would put Scientific, Medical and Technical (SMT) activities at the top of the list—quality and regulatory are included in this rubric. These SMT issues are not unique to blood operations. However, our arguably unique perspective on these issues is critically important and best done in collaboration with one another, to support the quality, safety, and availability of the U.S. blood supply. This is, I believe the primary domain of ABC, from which all other activities emanate.

The search and selection of a new ABC Chief Medical Officer to lead our SMT activities is essential to ABC's continued success. Dr. Celso Bianco was the first medical doctor to hold a senior staff position at ABC, hired in August 2000. Dr. Louis Katz followed him in September 2012. Their 17-year leadership of ABC's scientific, medical, technical, quality, and regulatory efforts and representation of ABC and its member blood centers before governmental and regulatory agencies has been fundamental to ABC's work.

Equally important to SMT is the continued strength and knowledge of blood operations within ABC and the invaluable contributions of time and expertise of the member blood centers. We must invite, broaden, and build member participation and contribution to SMT activities.

Data is fundamental to SMT, as well as quality, safety, and availability of the blood supply. Good progress on the ABC Data Warehouse has been made, but better funding and more work are required. ABC is actively exploring opportunities and alternatives to achieve both near and longer term goals.

The need for a strong voice in advocacy, regulatory, legislative, hospital and donor all naturally follow. But, the strength of our voice is rooted in fact-based science, medicine, and technical information—both to inform our members and other stakeholders, as well as inform policy makers. A stronger SMT foundation supports a stronger advocacy voice.

Two friends, both MDs, offered comments that rang true for me. One noted, "scientific, medical, and technical realities underpin most of the major decisions we must make in the blood banking industry." The other, "SMT provides a forum for educating CEOs." I agree with the former and fully appreciate the latter.

I look forward to the months and year ahead. I'm always interested in your comments, input, and perspective.

mgrable@cbcc.us

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ABC is an association of not-for-profit, independent community blood centers that helps its members provide excellence in transfusion medicine and related health services. ABC provides leadership in donor advocacy, education, national policy, quality, and safety; and in finding efficiencies for the benefit of donors, patients, and healthcare facilities by encouraging collaboration among blood organizations and by acting as a forum for sharing information and best practices.

America's Blood Centers
President: Martin Grable
CEO: Christine S. Zambricki
ABC Publications Editor: Lisa Spinelli
Subscriptions Manager: Leslie Maundy
Annual Subscription Rate: $390

Send subscription queries to
lmaundy@americasblood.org
America's Blood Centers
725 15th St. NW, Suite 700, Washington, DC 20005
Phone: (202) 393-5725
Send news tips to newsletter@americasblood.org.

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INSIDE ABC

The programs and services described in the Inside ABC section are available to ABC member blood centers and their staff only, unless otherwise specified.

FABC Award Winners Light Up the Stage

OneBlood CFO John Murphy and ABC CEO Christine Zambricki

As promised we have included more photos for you on the following pages from the 55th ABC Annual Meeting's *Awards of Excellence* and ABC's Got Talent Season II. We would also like to take a moment to congratulate and thank our FABC award winners.

FABC Chairman Pascal George awarded the FABC Pacesetter Award to Abbott Laboratories and Fresenius Kabi USA, LLC, separately, for donating between $50,000 to $74,999 to the FABC in 2016. Their financial support helped fund the ABC Professional Institute (API) Capital Campaign. Mr. George recgonized the commendable accomplishments this year from Rachelle Fondaw, director of education programs and grants at ABC, and her tireless work towards the creation of two customized courses as well as surpassing the 500 user-milestone for the number of individuals accessing classes through the API online learning portal.

Mr. George then presented the FABC President's Award to John Murphy, CFO of OneBlood, for his dedication as a volunteer CFO for ABC and FABC, his flexibility, responsiveness and his ability to think outside the box.

Congratulations again to all the award winners!

ABC Technical and Quality Workshop

The ABC Technical and Quality Workshop is open for registration. This year's meeting will be held in Omaha, Neb. on June 6 to 8, at the Downtown Doubletree by Hilton. This meeting provides an exclusive opportunity for quality and technical professionals to come together for educational updates and networking events. There are two options available for the workshop, a two-day option and a three-day option. The early bird registration discounts are available until next week, April 12, so sign up today! To register for the Workshop, click here.

To apply for a scholarship, please send your application to Leslie Maundy at LMaundy@americasblood.org. We look forward to seeing you there!

Photos from the ABC Annual Meeting's *Awards of Excellence* and Talent Show

Dr. *Carolyn Young accepting the Talent Show award*

ABC's Jodi Zand and Dr. Yasuko Erickson

Dr. Julie Cruz and Dr. Mary Townsend

Greg Gallion and Dean Eller's granddaughter Lylah Eller

Dr. Carolyn Young and Jeanne Dariotis

Barrett Mulford and Mike Withrow from Fresenius-Kabi and ABC CEO Christine Zambricki

Joel Jankowski from Abbott Laboratories and Dr. Zambricki

Dr. Young playing the piano for the ABC's Got Talent Show

Award Winner Don Doddridge and Dr. Susan Rossmann

Dr. Louis Katz and Award Winner Dr. Meryln Sayers

Award Winner Blood Bank of Hawaii CEO Kim Anh-Nguyen

Dr. Townsend, Award Winner Streets of New York CEO Lorrie Glaeser, and Dr. Zambricki

Chris Staub and ABC's Sameer Ughade

Mr. Larry Frederick, NYYBC's Marie Forrestal and Barb Pearson, Award Winner Steve DeLorenzo, Ms. Zambricki and NYBC's Rob Purvis

Award Winner Steve DeLorenzo and his family

Ms. Forrestal and Dr. David Wellis

FABC Chairman Pascal George and Ms. Pearson

To view more photos from the night, visit our Flickr account.

To learn about more about the award winners, read the ABC *Newsletter* #9 and #10.

MANUFACTURED RBCS (continued from page 1)

The authors recognized it will be a number of years before they will have a satisfactory number of studies to begin production of safe, manufactured blood to offset the 1.5 million units needed to meet the local demands of NHS. They stress that this work is in no way trying to replace blood donors, but is aimed at patients with very specialized transfusion needs, such as very rare blood groups and sickle cell disease patients.

Citations: Trakarnsanga K., Griffiths R.E., Wilson M.C., *et al*. An immortalized adult human erythroid line facilitates sustainable and scalable generation of functional red cells. *Nature Communications*. March 14, 2017. DOI: 10.1038/ncomms14750.

RESEARCH IN BRIEF

Delayed umbilical cord clamping at birth reduced anemia for eight to 12 month-old infants in a high-risk population, said a new study. Previous studies have shown delayed cord clamping for three minutes improved iron stores in infants up to six months old. A new randomized study of 540 infants compared 270 babies with early clamping (median of 32 seconds) to 270 with delayed clamping (median of 192 seconds). Delayed clamping was associated with higher hemoglobin levels by 0.2 g/dL at eight and 12 months. The rate of anemia was lower in the delayed group, 73.0 percent vs 82.2 percent, as well. Ferritin concentrations were significantly higher in the delayed clamping group.

Citation: KC A.; Rana N., Målqvist M., *et al*. Effects of Delayed Umbilical Cord Clamping vs Early Clamping on Anemia in Infants at 8 and 12 Months. *JAMA Pediatrics*. January 17, 2017. DOI: 10.1001/jamapediatrics.2016.3971.

Cytomegalovirus (CMV) DNA-positive blood donors had limited infectivity to immunocompetent recipients. Transfusion-transmitted CMV is associated with serious complications in at-risk populations, like seronegative stem cell recipients or very low birthweight neonates. A 14-year retrospective study (August 2000 to December 2014) examined 39 CMV seronegative recipients of 40 blood products from CMV DNA-positive donors at the Institute of Transfusion Medicine, University Hospital of Schleswig-Holstein in Germany. Three transfusion recipients were found to be CMV seropositive after follow-ups; however, all recipients tested negative for CMV DNA. The median follow up was 287 days. Samples had a 95 percent detection limit of 12 IU CMV-DNA/mL plasma.

Citation: Ziemann M., Juhl D., Brockmann C., *et al*. Infectivity of blood products containing cytomegalovirus DNA: results of a lookback study in nonimmunocompromised patients. *Transfusion*. March 28, 2017. DOI: 10.1111/trf.14105.

BRIEFLY NOTED

In a commentary in *JAMA*, the Public Health Service Act's and new rules applications to emerging infectious diseases threats is explained. The Centers for Disease Control and Prevention (CDC) published a final rule on communicable diseases on January 19, 2017, that allows federal medical officers to apprehend, detain, quarantine, and isolate individuals for up to 72 hours whom, they feel, have communicable diseases. While the authors note the new rule is an improvement from previous rules, it still lacks appropriate outside oversight to ensure civil liberties are not infringed upon, and is not in accordance with the Supreme Court's ruling that civil confinement requires "clear and convincing" proof in order to apprehend an individual. The current rule only requires a "reasonable belief" of exposure or infection with a

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BRIEFLY NOTED (continued from page 7)

communicable disease. The authors noted that federal health officials must use only the power "reasonably needed to detect and respond to pathogenic threats while affording constitutional safeguards of liberty and privacy." With the proposed budget cuts to health care and surveillance programs, the authors warn the U.S. may be unable to respond to a large public health crisis, like the Zika outbreak, quickly and effectively.

Citation: Gostin L.O. and Hodge Jr. J.G. Reforming Federal Public Health Powers: Responding to National and Global Threats. *JAMA*. March 28, 2017. DOI: 10.1001/jama.2017.1021.

The lungs may play a larger part in platelet (PLT) biogenesis than previously thought. The lungs' contribution to PLT biogenesis accounts for about 50 percent of total PLT production, or 10 million PLTs per hour in mouse models, notes a new study. By transferring lung resident cells using a single-lung transplant and utilizing an imaging technique called 2-photon intravital microscopy, scientists found a large number of megakaryocytes in the lungs, where they dynamically released PLTs. Additionally, they found mature and immature megakaryocytes, along with hematopoietic progenitor cells, in the extravascular spaces of the lungs. Their findings, if replicated in humans, could affect the treatment of thrombocytopenic patients and stem cell transplant recipients.

Citation: Lefrançais E., Ortiz-Muñoz G., Caudrillier A., *et al*. The lung is a site of platelet biogenesis and a reservoir for haematopoietic progenitors. *Nature*. March 22, 2017 online. DOI**:** 10.1038/nature21706.

Strategies to reduce risk of teenage blood donors proposed. While 16 and 17 year olds make up only 2.8 percent of the U.S. population, they contribute about 10 percent of the country's blood supply—they are also the most at-risk for immediate adverse donor reactions. Teen donors are more likely than older donors to experience dizziness and vasovagal reactions that lead to falls. Young donors also have and develop iron depletion. While high school blood drives are an integral part of the U.S. blood supply, three options have been raised in this piece to address the risk(s) toward teenage donors. These three, not mutually exclusive, options include: raising the minimum donation age; modifying informed consent practices to involve parents; and improving safety within the extant donation practice—including iron supplementation.

Citation: Bloch E.M., Mast A.E., Josephson C.D., *et al*. Teenage Blood Donors: Are We Asking Too Little and Taking Too Much? *Pediatric Perspectives*. April 2017. DOI: 10.1542/peds.2016-2955.

A summary of the Scientific Priorities in Pediatric Transfusion Medicine 2016 conference is available. The National Heart, Lung, and Blood Institute (NHLBI); the Department of Health and Human Services/Office of the Assistant Secretary of Health; and the Food and Drug Administration (FDA) sponsored a meeting on Scientific Priorities in Pediatric Transfusion Medicine at NHLBI in Bethesda, Md., last year with 80 participants. Sessions addressed six key areas where there are recognized "gaps in knowledge:" neonatology and perinatology, oncology and transplant, chronic transfusion, devices and surgery, intensive care, and trauma and teenage blood donation. A few of the many priorities discussed, included further studies on hemolytic disease of the fetus and newborn prevention and mechanistic animal and human studies to investigate strategies to prevent maternal alloimmunization to platelet glycoprotein alloantibodies; using the REDS-III database, an observational birth or early childhood cohort study could be designed to investigate host immune status; and a number of transfusion strategies for life-threatening bleeding due to traumatic injury or surgery.

Citation: Cure P., Bembea M., Chou S., *et al*. 2016 proceedings of the National Heart, Lung, and Blood Institute's scientific priorities in pediatric transfusion medicine. *Transfusion*. March 28, 2017. DOI: 10.1111/trf.14100.

RECENT REVIEWS

The Critical Care Clinics (CCC) have published *Advances in Trauma*. The CCC publishes quarterly publications and focuses on a single issue in critical care. In the January edition are chapters including Optimal Fluid Therapy for Traumatic Hemorrhagic Shock; Predicting Massive Transfusion in Trauma; Tranexamic Acid Update in Trauma; Coagulopathy of Trauma; Management of Trauma-Induced Coagulopathy with Thrombelastography; and Optimal Reversal of Novel Anticoagulants in Trauma. Members can read the publication for free, or non-members can order a copy, by clicking here.

INFECTIOUS DISEASES

Phase two in Zika trials begins. A multi-site phase 2/2b clinical trial has been announced for an experimental DNA Zika vaccine, called VRC 705, from the National Institute of Allergy and Infectious Diseases. The trial will enroll 2,490 asymptomatic participants who live in areas with local mosquito-transmission. The vaccine is based on a West Nile Virus vaccine candidate. The early human trials initial findings indicate the vaccine is safe and able to induce a neutralizing antibody response against Zika virus. (Source: NIH press release)

Ten percent of U.S. pregnancies complicated by Zika infection result in fetal mortality or birth defects. The analysis of 1,297 pregnant women in 44 states reported 24 of the infants born to the 250 confirmed ZIKV positive mothers had evidence of injury. Birth defects were found in 15 percent (95 percent confidence interval, 8 to 26 percent) of the fetuses/infants with confirmed ZIKV infection in the first trimester.

Citation: Reynolds M.R., Jones, A.M., Petersen E.E., *et al*. Vital Signs: Update on Zika Virus–Associated Birth Defects and Evaluation of All U.S. Infants with Congenital Zika Virus Exposure — U.S. Zika Pregnancy Registry, 2016. *MMWR Morbidity Mortality Weekly Report* ePub. April 4, 2017. DOI: http://dx.doi.org/10.15585/mmwr.mm6613e1.

WORD IN WASHINGTON

A defense of health budget cuts. Last week, Department of Health and Human Services (HHS) Secretary Tom Price defended President Trump's proposed $1.2 billion budget cuts to the National Institutes of Health (NIH) for the current fiscal year.

"Our goal is to fashion a budget that focuses on the things that work, that tries to decrease the areas where there are either duplications or redundancies or waste, and whether indeed we can get a larger return for the American taxpayer," Sec. Price said to a House committee. "I was struck by one thing at NIH, and that is that about 30 percent of the grant money that goes out is used for indirect expenses, which as you know means that that money goes for something other than the research that's being done."

Sec. Price suggested that by reducing the amount NIH pays universities to cover "overhead" costs, like lab equipment and utilities, the agency would then have more funding to perform research. (Source: *STAT News*, Tom Price defends proposed cuts at NIH, citing 'indirect' expenses. March 30, 2017)

The Agency for Healthcare Research and Quality (AHRQ) could be on the chopping block if the President's budget cuts are approved by Congress. AHRQ's role is to provide evidence to make "healthcare safer, higher quality, more accessible, equitable, and affordable." The Trump Administration wants to merge the independent agency with the National Institutes of Health, but supporters of the AHRQ

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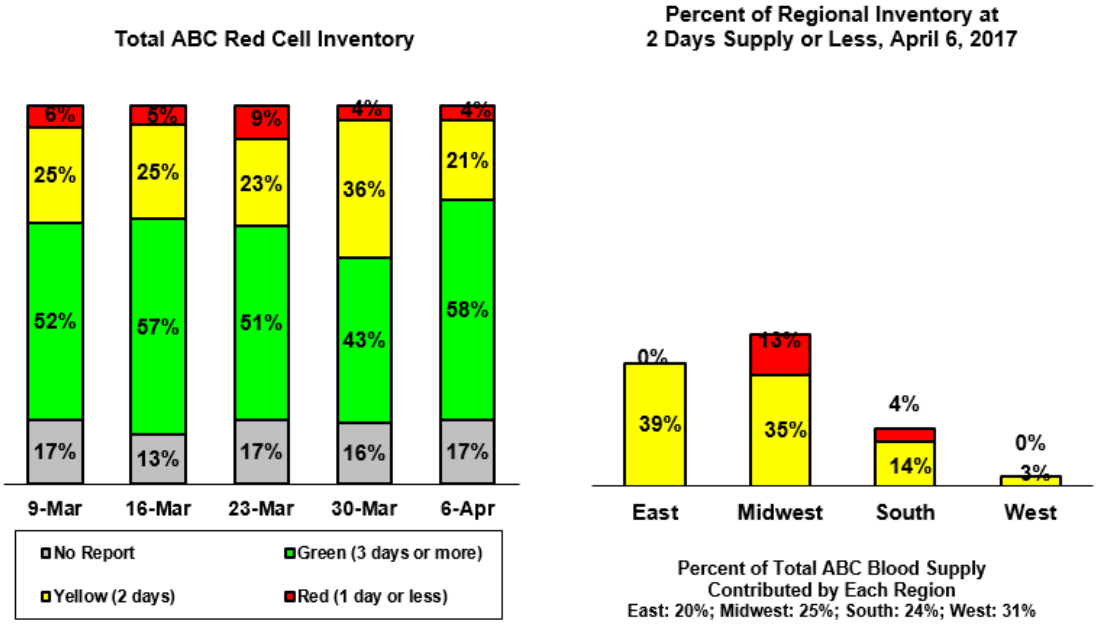
WORD IN WASHINGTON (continued from page 11)

said lawmakers do not understand the agency's role. "It could be beneficial if it's reorganized under the right conditions," Andrew Bindman, MD, professor of epidemiology & biostatistics at the University of California, San Francisco, wrote in a blog post for Health Affairs. (Source: *FierceHealthcare*, Agency for Healthcare Research and Quality a potential casualty of Trump budget cuts. March 30, 2017)

STOPLIGHT®: Status of the ABC Blood Supply



Daily updates are available at:
www.AmericasBlood.org

MEMBER NEWS

BloodCenter of Wisconsin launches more accurate test for von Willebrand factor activity. The BloodCenter of Wisconsin (BCW), part of Versiti, announced a new von Willebrand (VWF) factor activity assay—the first of its kind available in a U.S. clinical lab setting. The test, named VWF GPIbM Activity, employs patented technology measuring VWF platelet binding activity critical for making an accurate diagnosis of VWD disease.

BCW's VWF GPIbM Activity assay detects qualitative VWF defects, reducing variability and providing more precise, reliable and sensitive test results. Utilizing VWF GPIbM Activity, practicing hematologists can be confident that the results reflect the clinical scenario of the patient.

"As a physician caring for individuals with inherited bleeding disorders, this development is an exciting advancement in von Willebrand disease diagnostics," said Johnathan Roberts, MD, associate medical director of the Bleeding & Clotting Disorders Institute in Peoria, Ill. "This assay will reduce some of the diagnostic challenges in caring for individuals with von Willebrand disease." (Source: BCW press release, April 4, 2017)

The Community Blood Center of the Carolinas (CBCC) keeps on pounding. The CBCC, the Carolina Panthers, and Carolinas HealthCare System are teaming up for the 10th Annual Keep Pounding Blood Drive at the Levine Children's Hospital in Charlotte on May 1. The annual event is held in honor of former Panthers player and Coach Sam Mills, whose jersey number 51 was the first and only number retired by the Carolina Panthers. Mills lost his two-year battle with cancer in 2005, but his "Keep Pounding" mantra continues to inspire his team and his community.

All presenting blood donors will receive a Keep Pounding Blood Drive T-shirt in addition to an exclusive Carolina Panthers Keep Pounding giveaway. Guests from the Panthers are scheduled to make special appearances throughout the day. For every pint of blood collected at the Keep Pounding Blood Drive, CBCC will make a financial contribution to the Keep Pounding Fund to support cancer research efforts at Carolinas Medical Center.

"The Community Blood Center of the Carolinas and its donors provide a lifeline for local patients, including many at Levine Children's Hospital," said Riley Fields, Carolina Panthers director of community relations. "The team is proud to support this blood drive each year and get the fans involved in this important event. Panthers fans have a long history of supporting the team's community outreach efforts, and this is a wonderful opportunity to give the priceless gift of life to those in need." (Source: CBCC press office)

We Welcome Your Letters

The *ABC Newsletter* welcomes letters from its readers on any blood-related topic that might be of interest to ABC members. Letters should be kept relatively short and to the point, preferably about a topic that has recently been covered in the *ABC Newsletter*. Letters are subject to editing for brevity and good taste. Please send letters to ABC Publications Editor Lisa Spinelli at newsletter@americasblood.org or fax them to (202) 393-1282. Please include your correct title and organization as well as your phone number. The deadline for letters is Wednesday to make it into the next newsletter.

GLOBAL NEWS

Pakistan will start working on its second phase of the Safe Blood Transfusion (SBT) project with the assistance of two German-government backed organizations—KFW and GIZ. KFW is a German government-owned development bank and GIZ is a German development services organization assisting the German government and helping it carry out development policies. The SBT project started in 2010 and aims to restructure the blood transfusion system in Pakistan to create a more modern structure. The Pakistan Ministry of National Health Services adopted a six-year (2014 to 2020) systematic and participatory approach to revise the National Blood Policy & Strategic Framework and ensure a sustainable planning base for the future. (Source: The Express Tribune, Safe blood transfusion: Work on second phase of project from June. March 27, 2017)

COMPANY NEWS

Oxitec announced some results from their "Friendly Aedes" project in Brazil. The company genetically engineered *Aedes aegypti* male mosquitoes that, after mate, produce offspring that die before they reach adulthood. The early death of these mosquitoes prevents them from biting humans and spreading diseases. The numbers Oxitec is announcing as results are from São Judas neighborhood within São Paulo, in the city's central region, as well as the Eldorado district. After six months of the release of the genetically modified male Aedes mosquitoes, Oxitec reports the São Judas neighborhood has a 78 percent reduction in wild larvae, and an 80 percent reduction for the second year in a row in the treated area versus non treated area of the in the Eldorado district. (Source: Oxitec press release, March 30, 2017)

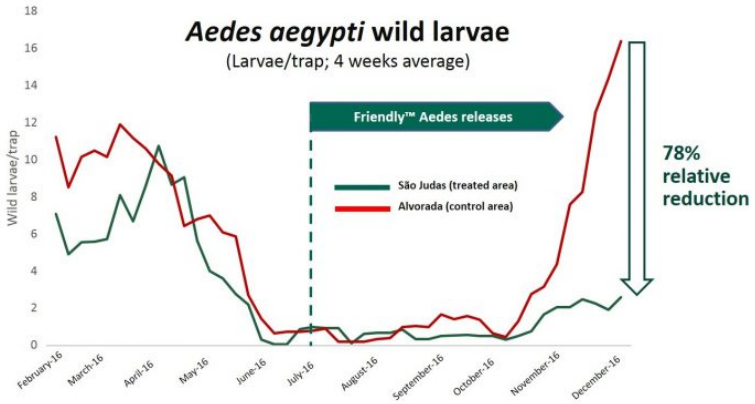


Figure 3 – Wild larvae/trap in São Judas

We Welcome Your Articles

We at the *ABC Newsletter* welcome freelance articles on any subject relevant to the blood banking community. Writers are encouraged to submit short proposals or unsolicited manuscripts of no more than 1,100 words. While ABC cannot pay for freelance pieces, the writer's name and title will be included at the end of the story, brief news item, or commentary. If proposing a story, please write a few paragraphs describing the idea and sources of information you will use, your present job and background, and your qualifications for writing on the topic. ABC staff cannot guarantee all stories will be published, and all outside writing will be subject to editing for style, clarity, brevity, and good taste. Please submit ideas and manuscripts to ABC Publications Editor Lisa Spinelli at newsletter@americasblood.org. You will be sent a writer's guide that provides information on style conventions, story structure, deadlines, etc.

CALENDAR

2017

Apr. 18-19. **Heart of America Association of Blood Banks (HAABB) 50th Annual Spring Meeting, Kansas City, MO.** For more information and to register, go to http://www.haabb.org.

Apr. 18-19. **Transfusion Safety Officer & Patient Blood Management Seminars (Basic & Advanced Programs), St. Petersburg, FL.** If you are interested in taking part in one of these new and engaging programs, please contact: Cathy Shea, Executive Assistant or call (727) 568-1151.

May 1-3. **ADRP 2017 Annual Conference, Chicago, Ill.** More information is available on the website.

May 16-17. **IPFA/PEI 24th International Workshop on "Surveillance and Screening of Blood-borne Pathogens", Zagreb, Croatia.** To register, click here.

May 17-19. **Cellular Therapies and Transfusion Medicine in Trauma and Critical Care-Looking Towards the Future, San Francisco, CA.** Presented by Blood Systems, Blood Systems Research Institute and the University of California San Francisco. For more information, or to register, click here.

June 6-8. **Technical & Quality Workshop, America's Blood Centers, Omaha, Neb.** Contact: ABC Meetings Dept. Phone: (202) 654-2901; e-mail: meetings@americasblood.org.

June 17-21. **27th Regional Congress of the ISBT, Copenhagen, Denmark.** Click here to register for the event.

July 26. **Transfusion Safety Officer & Patient Blood Management Seminars (Advanced Program), Ft. Lauderdale, FL.** If you are interested in taking part in one of these new and engaging programs, please contact: Cathy Shea, Executive Assistant or call (727) 568-1151.

Aug. 1-4. **Summer Meeting, MD Workshop & Golf Tournament, America's Blood Centers, Providence, R.I.** Contact: ABC Meetings Dept. Phone: (202) 654-2901; e-mail: meetings@americasblood.org.

Aug. 4. **Board Meeting, America's Blood Centers, Providence, R.I.** Contact: ABC Meetings Dept. Phone: (202) 654-2901; e-mail: meetings@americasblood.org.

Sept. 11-12. **IPFA/BCA 3rd Global Symposium on The Future for Blood and Plasma Donations, Atlanta, Ga.** Registration will open in mid-September.

Sept. 27-28. **Financial Management & IT Workshops, America's Blood Centers, Houston, Texas.** Contact: ABC Meetings Dept. Phone: (202) 654-2901; e-mail: meetings@americasblood.org.

Nov. 7-8. **Transfusion Safety Officer & Patient Blood Management Seminars (Basic & Advanced Programs), Jacksonville, FL.** If you are interested in taking part in one of these new and engaging programs, please contact: Cathy Shea, Executive Assistant or call (727) 568-1151.

Nov. 8-10. **10th World Federation of Hemophilia Global Forum, Montreal, Canada.** For more information and to register, click here.

CLASSIFIED ADVERTISING

Classified advertisements, including notices of positions available and wanted, are published free of charge for a maximum of three weeks per position per calendar year for ABC institutional members. There are charges for non-members: $139 per placement for *ABC Newsletter* subscribers and $279 for non-subscribers. A six (6) percent processing fee will be applied to all credit card payments. Notices ordinarily are limited to 150 words. To place an ad, contact Leslie Maundy at the ABC office. Phone: (202) 654-2917; fax: (202) 393-1282; e-mail: lmaundy@americasblood.org.

POSITIONS

Also available on our website

Director, Plasma Quality and Operations. Blood Centers of America (BCA) is a national cooperative comprising over 50 blood center members. BCA is seeking an individual with industry experience to serve as Director, Plasma Quality and Operations. This position is responsible for specific aspects of the Plasma for Fractionation Program including managing assigned contracts and acting as the Quality, Regulatory and Technical specialist for this business unit. The ideal candidate will possess outstanding communication abilities, relationship development talent and customer service skills. Five to 10 years progressive managerial experience in the health care or blood center industry required. Medical Technology degree and strong quality background preferred. BCA is based near Providence, Rhode Island. Will consider remote location for the right candidate. Position requires up to 30% overnight travel. Please submit resume to careers@bca.coop.

Serologist I (aka: Medical Technologist or Medical Laboratory Scientist). (Department: Reference Lab; Location: St. Paul, MN (University and 280); Schedule: Every Weekend, including Saturday and Sunday; FTE: Full-Time, 1.0 FTE (40 hours per week), and Non-Exempt; Benefits: Medical, Dental) If you are looking to specialize further into the world of blood banking and transfusion medicine, apply today! Our reference lab professionals not only have a wealth of experience to aid in teaching, many of our Serologists hold or are pursuing and SBB. There is no better environment to specialize in this lifesaving industry. Make a difference every day. To apply please go directly to our website with an updated resume.

Assistant Manager Donor Testing (Laboratory Supervisor). (Department: Donor Testing; Reports To: Manager Donor Testing Lab; Status: Full-time, 1.0FTE, and Exempt; Schedule: Monday – Friday, 3rd Shift 9 p.m. - 5:30 a.m.; Benefits: Medical, Dental, Vision, 401K, PTO / EST, to name a few) Take the next step in your career in our high profile donor testing laboratory with our non-profit mission based organization. Primary Purpose: Manages testing laboratory 3rd shift staff and coordinates operations associated with testing blood donors for infectious disease and immune-hematology during these shifts. Provides adequate training and performance appraisals. To apply please go directly to our website with an updated resume.

Cellular Therapy Technologist. The Cellular Therapy Technologist 1 (CTT 1) in the Stem Cell Processing Department. Activities include cellular therapy (CT) processing, performing and troubleshooting quality control of reagents and equipment, participating in educational instruction of students and new employees, familiarity and full compliance with all CT and general laboratory regulations, and participating in design and implementation of new methodology for processing CT products. The CTT 1 helps to ensure that daily operations in the Department meet and follow all established guidelines and provide excellence in service and patient care. MT (ASCP)/equivalent or eligible with certification attained within 90 days of hire. Bachelor of Science degree in Medical Technology or a related field in laboratory science. One year experience as medical technologist (preferred), blood banking knowledge, advanced skills in Microsoft Word and Excel, ability to work independently and make reasonable decisions based and excellent math skills. Carter BloodCare (CBC) is an EEO/Affirmative Action employer. CBC is a Pro Disabled & Veteran Employer. We maintain a drug-free workplace and perform pre-employment substance abuse testing.

Clinical Education Consultants. Fresenius-Kabi is a global health care company that specializes in lifesaving medicines and medical technologies for infusion, transfusion and clinical nutrition. We have opportunities for Clinical Ed Consultants based out of Philadelphia (NE region) or Seattle/Sacramento/Portland (West region) who will work collaboratively with the sales team in providing customers with clinical expertise. The focus will be in educational and systems development consulting, product line utilization management, and clinical sales support to the team. Med Tech degree preferred and three to five years' experience in a clinical/lab environment with experience in training medical staff and ability to drive sales. Ability to travel 75% in the region by air and personal car and must be located near a major airport. For more information about these positions and to apply, please visit: www.fresenius-kabi.us/career.html and search positions by req. # listed: Seattle/Sacramento/Portland: LZR00037. Philadelphia: LZR00035.