Latest developments in the field of stem cell research and regenerative medicine compiled from publicly available information and press releases from nonacademic institutions from July 1, 2014 until August 31, 2014.

Business Development

Collaborations, partnerships & alliances

Co-development agreement: Cynata & University of Wisconsin

Cynata Therapeutics (Australia; www.cynata.com) has signed an agreement with the University of Wisconsin-Madison (WI, USA; www.wisc.edu) to develop a novel approach for preserving cell therapy products to enhance their shelf life and convenience. Cynata is developing a therapeutic stem cell platform technology, Cymerus™, originating from the University of Wisconsin-Madison. Through the production of a particular type of mesenchymal stromal/stem cells (MSC) precursor, called a mesenchymoangioblast, the Cymerus provides a source of MSCs that is independent of donor limitations and provides a potential 'off-the-shelf' stem cell platform for therapeutic product use.

Co-development agreement: Eli Lilly & Immunocore

Eli Lilly and Company (IN, USA; www.lilly.com) and Immunocore (UK; www.immunocore.com) have entered into a co-discovery and co-development collaboration to research and potentially develop novel T-cell-based cancer therapies. Using Immunocore's Immune Mobilizing Monoclonal T-Cell Receptor Against Cancer (ImmTAC) technology, the companies will seek to use the power of the body's own immune system to attack cancer cells. ImmTACs have shown potential to direct a patient's T cells to specifically target the cancerous cells, avoiding damage to healthy cells. Under the terms of the agreement, Immunocore will receive an upfront fee of US\$15 million per program for the

discovery of novel ImmTACs against jointly selected cancer targets in order to generate preclinical candidate packages. If Lilly accepts a preclinical candidate package to develop and potentially commercialize, Immunocore will receive an opt-in fee of US\$10 million and will have an option to continue co-development with Lilly on a cost- and profit-sharing basis. If Immunocore does not exercise its option, it will be entitled to potential future significant milestone and royalty payments.

Co-development agreement:

HLI & Celgene

Human Longevity (HLI; CA, USA; www.humanlongevity.com), made a deal with Celgene Cellular Therapeutics (NJ, USA; www.celgene.com) to license, develop, and co-promote Celgene's placental cell population, PSC-100. Per the deal, HLI can explore different applications for PSC-100, including testing it out against sarcopenia, or age-related muscle loss. Celgene has also made an equity investment in HLI.

Co-development agreement: Regeneus & Cryosite

Regeneus (Australia; <http://regeneus.com.au>) and Cryosite (Australia; www.cryosite.com) have signed an agreement to collaborate on the development and manufacture of new stem cell products for human applications. Key elements of the agreement include:

- Regeneus will provide technology, know-how and research facilities to assist Cryosite with the development of methods for the expansion of cord tissue-derived MSC;

Dusko Ilic, MD, PhD

Stem Cell Laboratories, Guy's Assisted Conception Unit, Division of Women's Health, King's College London School of Medicine, London, UK
dusko.ilic@kcl.ac.uk

- Cryosite will provide production facilities for Regeneus' off-the-shelf allogeneic stem cell product for human osteoarthritis (Progenza). The product, to be used for clinical trial purposes, will be manufactured within Cryosite's GMP clean room facilities by Regeneus staff;
- The companies will jointly explore new product development and manufacturing opportunities.

Collaboration agreement: Athersys & Terumo BCT
Terumo BCT's (CO, USA; www.terumobct.com) Quantum® Cell Expansion System is now under evaluation by Athersys (OH, USA; www.athersys.com), as a manufacturing platform for Athersys' allogeneic multipotent adult progenitor cell products. Athersys' affiliate ReGenesys BVBA (Belgium; <http://regenesis.eu>) will manage the evaluation. The Quantum system is a closed cell culture and expansion system enabling effective control and assessment of important operating parameters. ReGenesys will evaluate the potential for scaling the cell culture process by using multiple units to meet its manufacturing requirements and will further quantify advantages over standard cell manufacturing approaches.

Collaboration agreement: CCBC & CordLife
China Cord Blood Corporation (www.chinacordbloodcorp.com) and Cordlife (Singapore; www.cordlife.com) have joined forces in assisting patients across China, Singapore, Hong Kong, Indonesia, India, the Philippines and Malaysia to identify suitable cord blood matching units for stem cell therapy.

Collaboration agreement: Kadimastem & Merck Serono
Kadimastem (Israel; www.kadimastem.com) has signed a collaboration agreement with Merck Serono (Germany; www.merckserono.com) to carry out drug screening in the neurodegenerative diseases space for multiple sclerosis, and potential other neurodegenerative diseases. Kadimastem has developed a technology to differentiate stem cells into oligodendrocytes, and will screen compounds with the aim of identifying those with potential efficacy in multiple sclerosis and other neurodegenerative diseases.

Collaboration agreement: WiCell & UK Stem Cell Bank
The UK Stem Cell Bank (UKSCB; www.nibsc.org/UK_Stem_Cell_Bank.aspx) and WiCell (WI, USA; www.wicell.org) announced an initiative to exchange cell lines so a combined panel of each institution's most popular cell lines will be available through each center.

The plan will ease delivery of human pluripotent stem cell (hPSC) lines to researchers around the world and significantly reduce shipping costs for the most widely used cell lines. This joint initiative is the result of UKSCB and WiCell's established track record of collaboration on best practices for hPSC banking and characterization going back almost a decade. Cell lines to be exchanged include lines approved by both the US NIH and the UK National Research Ethics Committees, and quality controlled according to international consensus standards (ISCBI, 2009). These lines also are registered on the newly funded hESCreg European database of hPSC lines (www.hescreg.eu), which will promote their use in European Commission-funded research.

Licensing agreement: Angiocrine & Weill Cornell
Angiocrine Bioscience (NY, USA; www.angiocrinebio.com) has licensed the rights to a new technology developed by a team of researchers at the Ansary Stem Cell Institute at Weill Cornell Medical College (NY, USA; <http://weill.cornell.edu>) [1]. This technology provides a means of converting a patient's own vascular cells, known as endothelial cells, directly into blood stem cells. The endothelial cells are acquired from a biopsied piece of skin and are then 'educated' on a bed of VeraVec™ cells (proprietary to Angiocrine) to form multipotent blood cells that are capable of producing red and white cells and platelets. This approach could potentially provide an abundant and safe source of new blood stem cells capable of treating a variety of diseases without the risk of graft-versus-host disease, a serious, life-threatening complication often associated with stem cell transplants derived from a donor.

Launching new projects, products & services

Cord Blood America

Cord Blood America (NV, USA; www.cordblood-america.com) launched a new service offering for the isolation and expansion of MSC from umbilical cord through its wholly owned subsidiary CorCell (NV, USA; www.corcell.com). Currently, approximately 60% of the customers are choosing to store both cord blood and a segment of cord tissue.

Emulate

Emulate (MA, USA; www.emulatebio.com) announced the company's launch with a US\$12 million Series A financing to commercialize a first-in-kind, automated 'Organs-on-Chips' platform that mimics human physiology and diseases, while permitting real-time elucidation of molecular mechanisms of action and toxicity. Organs-on-Chips are miniaturized devices created with microchip manufacturing

that contain tiny hollow channels lined by living human cells and tissues cultured under continuous fluid flow and mechanical forcing regimens, such as cyclic breathing and peristalsis, which effectively recapitulate organ-level physiology and disease responses.

HemoGenix

HemoGenix (CO, USA; www.hemogenix.com) announced that results from its HALO® family of cell therapy assays, which measure stem cell quality and potency of umbilical cord blood units prior to transplantation, can now be uploaded to the National Marrow Donor Program® (NMDP; MN, USA; <http://bethematch.org>) EmTrax™ umbilical cord blood database. The latter is used by stem cell transplantation centers to search for compatible cord blood units stored in public cord blood banks for patients requiring a stem cell transplant. The assays can promote ‘best practice criteria testing’. Inclusion of this stem cell data into the EmTrax database can provide the transplant physician with valuable, additional information regarding the ability and potential of the umbilical cord blood stem cells to engraft prior to the transplantation procedure.

Irvine Scientific

Irvine Scientific (CA, USA; www.irvinesci.com) has launched three new serum-free media for the differentiation of MSC into adipogenic, osteogenic and chondrogenic lineages. These are the newest in the growing PRIME-XV line of cell therapy products Irvine Scientific has developed to provide researchers the highest quality and performance media for the culture of human stem cells and primary cells. These media are manufactured under cGMP conditions in

ISO13485-certified facilities to facilitate transition to clinical applications.

Osiris

Osiris Therapeutics (MD, USA; www.osiris.com), added several new sizes to the Grafix® product line. Grafix, a cryopreserved placental membrane, is regulated under 21 CFR 1271, part 361, Human Cells, Tissues and Cellular Tissue-Products (HCT/Ps) as a wound cover. Like other HCT/Ps, Grafix can be manufactured in multiple sizes, giving healthcare providers the ability to optimally match Grafix to the wound size, reduce overall treatment costs and eliminate concerns regarding product waste. Grafix is now available in five convenient sizes and is well positioned to remain a cost-effective option within the Centers for Medicare & Medicaid Services bundled payment system. In addition to the launch of multiple new sizes, Osiris is introducing an innovative delivery system. The new design reduces thaw time, increases product maneuverability and eases the overall application of Grafix to the wound bed.

SQZ Biotech

SQZ Biotech (MA, USA; <http://sqzbiotech.com>) has a slick, vector-free method of introducing material into cells, squeezing them in high-pressure tubules to loosen cell membrane pores so they will accept the alien materials such as proteins, nanomaterials, antibodies, RNA and DNA. The process is performed on microfluidic chips. CellSqueeze® says it produced a 10- to 100-fold improvement over traditional methods such as like electroporation and cell-penetrating peptides when it came to delivering transcription factors for stem cell reprogramming. The high-throughput platform can treat up to 100,000 cells per second.

Clinical Trials

ACell

ACell (MD, USA; www.acell.com) enrolled the first patient in a multicenter US Phase IV clinical trial evaluating the safety and long-term effectiveness of MatriStem® Pelvic Floor Matrix device as compared with native tissue repair for the treatment of pelvic organ prolapse. The prospective, nonrandomized trial will measure postoperative pelvic pain, quality of life and long-term need for retreatment. MatriStem products are porcine-derived extracellular matrix (ECM) scaffolds that contain the epithelial basement membrane from porcine urinary bladder tissue. Further information about the clinical trial is available at <http://clinicaltrials.gov> (ID: NCT02021279).

Amniox

Amniox Medical (GA, USA; www.amnioxmedical.com) initiated a randomized, controlled clinical trial of its proprietary product in patients with chronic wounds. The multicenter, randomized, parallel, crossover design study of nonhealing diabetic foot ulcers compares Cryopreserved, Umbilical Cord Allograft (NEOX® CORD 1K) versus standard of care. The study is designed to demonstrate the Company’s technology is a clinically effective and cost-efficient option for patients. NEOX® CORD 1K is a cryopreserved human amniotic membrane and umbilical cord matrix intended for use as a wound covering for dermal ulcers and defects. It is designated as a Human Cell & Tissue

Product (HCT/P) by the US FDA. Further information about the clinical trial is available at <http://clinicaltrials.gov> (ID: NCT02166294).

CardioCell

CardioCell (CA, USA; <http://stemcardiocell.com>) initiated a Phase IIa trial of ischemia-tolerant MSC for patients with chronic heart failure due to nonischemic cardiomyopathy. The single blind, multicenter, crossover trial will include more than 20 patients. The patients will be randomly assigned to receive a single intravenous dose of placebo or ischemia-tolerant allogeneic bone marrow MSC. The cells, which are grown under hypoxic conditions, secrete greater amounts of growth factor and other proteins linked with neoangiogenesis and healing. At 90 days, the control and treatment groups will switch, and the control group will receive the intravenous stem cell therapy. Assessment will occur at baseline, 90 and 180 days and will be measured by MRI to observe changes in ejection fraction and segmental changes in contractility. Further information about the clinical trial is available at <http://clinicaltrials.gov> (ID: NCT02123706).

Cytori

The Cardiovascular Cell Therapy Research Network (CCTRN; TX, USA; <https://ccct.sph.uth.tmc.edu/ccctrn/>), has selected Cytori (CA, USA; www.cytori.com) to supply adipose-derived regenerative cells (ADRCs™) for a clinical trial aimed at evaluating the safety and feasibility of treating patients with left ventricular assist devices (LVAD). The CCTRN is supported by grants from the National Heart, Lung, and Blood Institute, a NIH division. This trial, named CELLVAD-ADRC, will explore outcomes following administration of a regenerative cell preparation from adipose tissue into the patient's heart muscle 60–90 days after placement of a LVAD.

Genocea

Genocea (MA, USA; www.genocea.com) announced positive, top-line, 12-month follow-up data from a Phase I/IIa study of GEN-003, the Company's immunotherapy candidate against herpes simplex virus type 2 (HSV-2). HSV-2, the most common cause of genital herpes, is a sexually transmitted disease that is estimated to infect more than 500 million people worldwide. In the US roughly 16% of the adult population, or 40 million people, are infected. The disease is particularly severe in immunosuppressed patients and poses significant risk to newborns if it is transmitted from mothers during birth. While antiviral drugs are used widely to treat HSV-2, there is neither a cure nor a vaccine for this disease. GEN-003 is a

first-in-class T-cell-enabled immunotherapy intended to reduce the transmission risk and clinical symptoms of HSV-2. GEN-003 was designed with insights from Genocea's ATLAS™ platform. ATLAS profiles the comprehensive spectrum of actual T-cell responses mounted by humans in response to disease, enabling the identification of antigen targets that drive protective T-cell responses with which to design new vaccines and immunotherapies. Final analysis of results at 6 months after dosing showed that the 30-μg dose group decreased the genital lesion rate by 65%, and the viral shedding rate by 40%, both versus baseline. At 12 months, the mean viral shedding rate reverted to baseline levels for all dose groups.

Subsequently, the Company announced start of the Phase II dose-optimization study, which will enroll approximately 300 subjects from 17 institutions in the USA and will study six combinations of two antigen doses (30 or 60 μg) with each of three adjuvant doses (25, 50 or 75 μg) alongside a placebo. All subjects will receive three doses of GEN-003 or placebo at 21-day intervals. The primary end point for the study is the change from baseline in viral shedding rate. The study is also designed to evaluate the impact on percentage of days with genital herpes lesions as reported by patients. Subjects receiving GEN-003 will be followed for 12 months after the last dose. Further information about the clinical trials is available at <http://clinicaltrials.gov> (ID: NCT01667341 and NCT02114060).

Mesoblast

Mesoblast (www.mesoblast.com) signed an agreement with the US NIH National Heart, Lung and Blood Institute to collaborate on a trial using Mesoblast's proprietary adult stem cell therapy to treat patients with advanced heart failure requiring an implantable LVAD to maintain circulatory support. The National Institute of Neurological Disorders and Stroke, part of the NIH, and the Canadian Institutes for Health Research are also supporting this trial. The key objectives of using Mesoblast's mesenchymal precursor cells in end-stage heart failure patients are to improve heart muscle function sufficiently to reduce the need for LVAD support, and to reduce the long-term complications of LVAD implantation, which result in recurrent hospitalizations.

Neuralstem

Neuralstem (MD, USA; www.neuralstem.com) treated the final patient in its Phase II trial using NSI-566 spinal cord-derived neural stem cells in the treatment of amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease). The multicenter Phase II trial

treated 15 ambulatory patients in five different dosing cohorts. The first 12 patients received injections in the cervical region of the spinal cord only, where the stem cells could help preserve breathing function, in escalating doses ranging from five injections of 200,000 cells per injection, to 20 injections of 400,000 cells each. The final three patients in the trial received both cervical and lumbar injections, for a total of 40 injections

of 400,000 cells each, or a total of 16 million cells transplanted. In contrast, the final three patients in the Phase I trial received the maximum 15 injections of 100,000 cells each, for a total of 1.5 million cells. The trial will continue until 6 months past the final surgery, at which point the data will be evaluated. Further information about the clinical trial is available at <http://clinicaltrials.gov> (ID: NCT01730716).

Regulations, Approvals & Acquisitions

Green light

BioTime

BioTime (CA, USA; www.biotimeinc.com) has received notice from the FDA's Center for Devices and Radiologic Health that Premvia™ has been cleared for marketing as a Class II medical device. Premvia is the first FDA-cleared member of BioTime's HyStem family of hydrogels, which are designed to mimic the natural structures of the human body's ECM. According to the FDA clearance, the product is indicated for the management of wounds including: partial thickness, full-thickness, tunneling wounds, pressure ulcers, venous ulcers, diabetic ulcers, chronic vascular ulcers, donor skin graft sites, post-Moh's surgery, postlaser surgery, podiatric wounds, wound dehiscence, abrasions, lacerations, second degree burns, skin tears and draining wounds.

BioTime/Asterias

BioTime' (CA, USA; www.biotimeinc.com) subsidiary Asterias Biotherapeutics (CA, USA; <http://asteriasbiotherapeutics.com>) has received clearance from the FDA to initiate a Phase I/IIa clinical trial of its product, AST-OPC1, in patients with complete cervical spinal cord injury. The approved trial follows the successful completion of the Phase I clinical study of the product, and is designed to assess safety and activity of escalating doses of AST-OPC1 in patients with complete cervical spinal cord injuries, the first targeted indication for AST-OPC1 and the first of future product registration clinical trials.

AST-OPC1 is a population of cells derived from human embryonic stem cells that contains oligodendrocyte progenitor cells (OPCs). OPCs and oligodendrocytes perform supportive functions for nerve cells in the central nervous system. The foundation for this newly cleared Phase I/IIa clinical trial comes from results from the Phase I clinical trial of AST-OPC1, which met its primary end points of safety and feasibility when administered to five patients with neurologically complete, thoracic spinal cord injury.

These five patients were administered a low dose of two million AST-OPC1 cells and have been followed to date for 2–3 years. No serious adverse events were observed associated with the delivery of the cells, the cells themselves, or the short-course immunosuppression regimen used. There was no evidence of expanding masses, expanding cysts, infections, cerebrospinal fluid leaks, increased inflammation, neural tissue deterioration or immune responses targeting AST-OPC1 in these patients. In four of the five subjects, serial MRI scans performed throughout the 2–3-year follow-up period indicate that reduced spinal cord cavitation may have occurred and that AST-OPC1 may have had some positive effects in reducing spinal cord tissue deterioration.

The new Phase I/IIa clinical trial will be an open-label, single-arm study testing three escalating doses of AST-OPC1 in 13 patients with subacute, C5–C7, neurologically complete cervical spinal cord injury. These individuals have essentially lost all sensation and movement below their injury site with severe paralysis of the upper and lower limbs. AST-OPC1 will be administered 14–30 days postinjury. Patients will be followed by neurological exams to assess the safety and activity of the product. Selection of the clinical trial sites is well underway and Asterias expects to begin patient enrollment during the first quarter of 2015. The new clinical trial differs from the original clinical study in that doses up to ten-times higher will be tested. In addition, the trial will focus on patients with neurologically complete cervical spinal cord injuries. Because of the anatomy of the spinal cord and the existence of more sensitive outcomes measures to assess movement of the arms and hands, it is currently believed that detection of efficacy is much more likely to occur in patients with cervical injuries. It is this patient population that Asterias anticipates will be the target for the first registration clinical trials of AST-OPC1. Asterias expects that the results of the Phase 1/2a clinical trial will provide support for a Phase 2b expansion study that

will be conducted to more thoroughly demonstrate safety and efficacy of the product.

CorMatrix cardiovascular

CorMatrix Cardiovascular (GA, USA; www.cormatrix.com) has received the FDA clearance to market the CorMatrix® ECM® for vascular repair. The product is intended for use as a patch material for repair and reconstruction of peripheral vasculature including the carotid, renal, iliac, femoral and tibial blood vessels. The CorMatrix ECM for vascular repair may be used for patch closure of vessels, as a pledget, or for suture line buttressing when repairing peripheral vessels. It is constructed from a multi-laminate sheet of decellularized, noncrosslinked, lyophilized ECM derived from porcine small intestinal submucosa.

Hospital Israelita Albert Einstein

Hospital Israelita Albert Einstein (HIAE; Brazil; <http://apps.einstein.br/english/>) earned cord blood bank accreditation from the Foundation for the Accreditation of Cellular Therapy (FACT; NE, USA; www.factwebsite.org). This is the first FACT accreditation in Brazil and South America for cord blood bank. HIAE also heads South America in previously receiving FACT accreditation of their cell therapy program for adult and pediatric allogeneic and autologous cell transplantation.

TiGenix

TiGenix (Belgium; www.tigenix.com), the European leader in cell therapy, announced today that the Committee for Medicinal Products for Human Use has renewed for an additional 5 years its marketing authorization for ChondroCelect® in all of the 31 countries of the EU and European Economic Area. EU legislation requires manufacturers of prescription medicines to apply for renewal of the marketing authorization after a 5-year term and based on a re-evaluation of mainly safety data, only products that continue to have a positive risk–benefit ratio have their marketing authorization renewed.

ViaCyte

ViaCyte (CA, USA; www.viacyte.com) has received International Standards Organization (ISO) 13485:2003 certification, an internationally recognized quality standard for medical devices, from the British Standards Institution (www.bsigroup.co.uk), one of the world's leading certification bodies. ISO 13485:2003 specifies requirements for a comprehensive quality management system for the design and manufacture of medical devices. ViaCyte was assessed and deemed to comply with the ISO's requirements

with respect to the design and manufacture of medical devices for encapsulation and delivery of cells with its Encaptra® drug-delivery system.

In unrelated news, the FDA gave ViaCyte the go-ahead to start a Phase I/II clinical trial in patients with Type 1 diabetes after reviewing their application for an Investigational New Drug application. The trial will see if their implantable device, the VC-01™, is safe and shows signs of being beneficial to patients. A promising treatment has received almost US\$40 million in funding from the stem cell agency, the California Institute for Regenerative Medicine (CIRM; www.cirm.ca.gov). ViaCyte has also completed a private equity financing transaction, providing the Company with US\$5.4 million through the sale of Series C-1 Preferred Stock, together with warrants to purchase common stock. The first closing of the Series C-1 financing occurred in July 2013. This additional investment brings the total invested in the Series C-1 financing to US\$16.5 million. A nonprofit corporation and several individuals participated in the offering.

Acquisitions

Collectis & Takara

Collectis (France; www.collectis.com) sold its stem cell subsidiary Collectis AB to the Japanese Company Takara Bio (www.takara-bio.com). The Company is getting out of the stem cell business and it is now concentrating activities in the field of oncology through the development of Chimeric Antigen Receptor T-cell (CAR-T) immunotherapy products generated through its allogeneic CAR-T platform, both on its own as well as in partnership with Servier (France; www.servier.com) and Pfizer (NY, USA; www.pfizer.com).

ReproCELL, Reinnervate & BioServe

To accelerate its iPSC business, ReproCELL (Japan; www.reprocell.com) acquired Reinnervate (UK; www.reinnervate.com) and BioServe Biotechnologies (MD, USA; www.bioserve.com). Through the combination of Reinnervate's 3D cell culture technologies and ReproCELL's induced pluripotent stem cell (iPSC) technologies, the next generation of iPSC products with better functionality and usability for customers will be developed and launched globally. Through the acquisition of BioServe, ReproCELL will now have access to large variety of patient-derived cells in disease areas such as Alzheimer's, Parkinsons and cardiovascular disorders. This will accelerate the development and commercialization of diverse patient-derived iPSC products where there is a rapidly growing market need.

Capital Market & Finances

Bellicum

Bellicum Pharmaceuticals (TX, USA; www.bellicum.com) successfully completed a US\$55 million Series C financing. The funding will be used to expand the clinical evaluation of Bellicum's stem cell transplant, CAR-T cell and cancer vaccine product candidates in a variety of blood and solid tumor cancers, and in nonmalignant genetic diseases.

Cytori & BARDA

Cytori Therapeutics (CA, USA; www.cytori.com and Biomedical Advanced Research and Development Authority (BARDA; www.phe.gov/about/barda/Pages/default.aspx), a division of the US Department of Health and Human Services, announced the execution of a contract option to fund the continued investigation and development of Cytori Cell Therapy for use in thermal burn injuries. The current extension is valued at approximately US\$12.1 million. Upon Investigational Device Exemption approval by the FDA, BARDA anticipates funding to cover costs associated with execution of the clinical trial, currently estimated at approximately US\$8.3 million, bringing the combined value to up to US\$20.4 million.

Gamida & Novartis

Gamida Cell (Israel; www.gamida-cell.com) has signed an investment and option agreement with Novartis (Switzerland; www.novartis.com). According to the agreement, Novartis will invest US\$35 million in Gamida Cell and in return will receive 15% equity and an option to fully acquire Gamida Cell. The option is exercisable for a limited period of time following achievement of certain milestones connected to the development of NiCord®, anticipated to be met during 2015. Completion of the transaction is subject to customary closing conditions. Upon exercising the Option, Novartis would pay the

other shareholders in Gamida Cell cash payments of approximately US\$165 million, in accordance with the terms of the Agreement. In addition, the Sellers will be entitled to potential future payments, which can reach a total of US\$435 million, depending on certain development and regulatory milestones and on sales of Gamida Cell's products.

StemCells

StemCells (www.stemcellsinc.com) has closed its previously announced offering of common stock and short-term warrants. The Company sold a total of 11,299,435 units to two institutional biotechnology investors and received total proceeds, net of offering expenses and placement agent fees, of approximately US\$18.7 million. Each unit consists of one share of common stock and a warrant to purchase 0.85 of a share of common stock at a price of US\$1.77 per unit. The warrants will first be exercisable 6 months from the date of issuance at an initial exercise price of US\$2.17 per share. The warrants will expire at the close of business on August 17, 2015.

Financial & competing interests disclosure

The author has no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.

Reference

- 1 Sandler VM, Lis R, Liu Y *et al.* Reprogramming human endothelial cells to haematopoietic cells requires vascular induction. *Nature* 511(7509), 312–318 (2014).