Adaptimmune Integrates BioLife Solutions CryoStor® Cell Freeze Media in Cancer Immunotherapy Clinical Trial

Autologous Cells Modified with Licensed T Cell Receptor (TCR) IP from University of Pennsylvania Studied for Safety, Bioactivity, and Effectiveness to Treat Multiple Myeloma

BOTHELL, WA — April 2, 2014 —BioLife Solutions, Inc. (NASDAQ: BLFS), a leading developer, manufacturer and marketer of proprietary clinical grade hypothermic storage and cryopreservation freeze media and precision thermal shipping products for cells and tissues, today announced that Oxford, UK and Philadelphia, PA-based Adaptimmune Ltd has adopted the Company's CryoStor clinical grade cell freeze media for use in Adaptimmune's current phase I/II clinical trial CT Antigen TCR-Engineered T Cells for Myeloma.

With this announcement, Adaptimmune joins a growing list of BioLife customers developing adoptive immunotherapies for various cancers. The cancer immunotherapy field was selected by the editors of Science magazine as the Breakthrough of the Year for 2013. For more information please visit: https://www.sciencemag.org/content/342/6165/1432.full

Gwendolyn Binder-Scholl, Ph.D., Executive Vice President at Adaptimmune, commented on their evaluation and validation of CryoStor by stating, "A major focus as cell therapies move to commercial phase, is the shift in GMP manufacturing to medias and excipients which are ready-made, free of animal components, and which perform at least comparably to home-made recipes. This increases safety, reduces clean room time and overall costs, and improves reproducibility of lot-to-lot manufacture. The incorporation of CryoStor as our cryopreservation media for our engineered T cell therapy is an important step in this direction."

Mike Rice, BioLife Solutions CEO, remarked on gaining a new regenerative medicine customer: "We are very pleased to support Adaptimmune's cell-based cancer therapy that has the potential to vastly improve quality of life and survival of cancer patients throughout the world. It's clear that our clinical grade biopreservation media products are becoming a new standard in the manufacturing processes of potential commercial cell and tissue-based regenerative medicine products. Biopreservation plays a crucial role in storing, freezing, shipping, and administering cell-based medicines. Our customers recognize that yield and viability of their source material and final manufactured dose are critical determinants of success and have validated the improved biopreservation outcomes our products provide."

The recently published visiongain Translational Regenerative Medicine market research report forecasts that the regenerative medicine market comprised of cell and gene therapies and tissue-engineered products will grow to more than $23 billion by 2024. BioLife's expects to participate in this market growth by providing biopreservation media and precision thermal packaging products used to store, freeze, ship, and administer clinical cells and tissues to patients. To date, BioLife's proprietary biopreservation media products have been incorporated into over 100 hospital-approved and clinical trial stage regenerative medicine products and therapies.

About Adaptimmune

Adaptimmune is focused on the use of T cell therapy with engineered T cell receptors to treat cancer and infectious disease. Established in July 2008 with a research base in Oxford, UK and a clinical base in Philadelphia, US, it aims to utilize the body's own machinery – the T cell – to

target and destroy cancerous or infected cells by using engineered, increased affinity T cell receptor (TCRs) as a means of strengthening natural patient T cell responses. Adaptimmune undertakes all of its own research and development using proprietary T cell receptor engineering technology co-developed and co-owned with its sister company Immunocore Ltd (formerly Avidex/MediGene) but exclusively licensed for T cell therapy to Adaptimmune. Backed by private investors, Adaptimmune is now in the clinic in the US, in HIV as well as multiple cancer indications with its engineered TCR to the NY-ESO-1/LAGE-1 cancer testis antigen.

About Adaptimmune's T Cell Therapy

Cancerous or virally infected cells will typically present small parts or peptides of larger viral proteins or abnormal cancer proteins on their surface, offering a "molecular fingerprint", called an epitope, for killer T-cells from the immune system to identify. In a healthy individual, this triggers an immune response, eliminating the affected cell.

However, viruses such as HIV mutate rapidly, swiftly disguising their fingerprints to allow them to hide from killer T-cells while cancer proteins are usually derived from self-proteins against which natural TCRs do not respond.

Adaptimmune's technology uniquely enhances the natural TCR affinity to either viral or cancer protein epitopes on an individual patient's cells overcoming these obstacles for therapeutic benefit.

Adaptimmune has undertaken significant preclinical development with a number of pipeline TCRs to demonstrate their potency and specificity in vitro. The TCR in the current myeloma study specifically recognizes two cancer testis antigen targets: NY-ESO-1 157-165 and LAGE-1 (HLA A2; SLLMWITQC), and was engineered using Adaptimmune's proprietary TCR engineering platform.

For more information please visit www.adaptimmune.com

About BioLife Solutions

BioLife Solutions develops, manufactures and markets hypothermic storage and cryopreservation solutions and high performance thermal packaging products for cells, tissues, and organs. The Company's proprietary HypoThermosol® and CryoStor® platform of solutions are highly valued in the biobanking, drug discovery, and regenerative medicine markets, where the products are currently utilized in more than 100 clinical trials and hospital-approved procedures. BioLife's products are serum-free and protein-free, fully defined, and are formulated to reduce preservation-induced cell damage and death. BioLife's enabling technology provides commercial companies and clinical researchers significant improvement in shelf life and post-preservation viability and function of cells, tissues, and organs. For more information please visit www.biolifesolutions.com, and follow BioLife on Twitter.

This press release contains forward-looking statements within the meaning of the "safe harbor" provisions of the Private Securities Litigation Reform Act of 1995, including, but not limited to, statements concerning our products' performance and market adoption, market forecasts, and other anticipated developments related to us, our business or customers. All

statements other than statements of historical fact are statements that could be deemed forward-looking statements. These statements are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and assumptions that could cause actual results to differ materially from those described in the forward-looking statements, including the factors described in our risk factors set forth in our filings with the Securities and Exchange Commission from time to time, including our Annual Report on Form 10-K and Quarterly Reports on Form 10-Q. We undertake no obligation to update the forward-looking statements contained herein or to reflect events or circumstances occurring after the date hereof, other than as may be required by applicable law.

# # # #

Media & Investor Relations
Daphne Taylor
Senior Vice President, Chief Financial Officer
(425) 402-1400
dtaylor@biolifesolutions.com
