Press Release
6 December 2016
07:00 am CET

Celyad Announces Positive New Data from its CAR-T NKR-2 Phase I Trial at 2016 ASH Annual Meeting

- Strong safety signals, including no cases of cytokine release syndrome, cell-related neurotoxicity, auto-immunity, or CAR-T related death.
- A new AML patient reported no progression (3+ months) and improvement in all hematological parameters under no additional therapy at the highest dose ($3x10^7$).
- Cases of prolonged survival with improvements in hematological parameters were noted in both acute myeloid leukemia (AML) and multiple myeloma (MM) patients.
- *In vitro* demonstration of NKR-2 specific functionality against autologous tumors in the two patients evaluated is a strong correlative evidence of the potential of this approach.
- Conference call to be held Wednesday, December 7, 2016 at 2:00pm (CET) / 8:00am (EDT).

Mont-Saint-Guibert, Belgium - Celyad (Euronext Brussels and Paris, and NASDAQ: CYAD), a leader in the discovery and development of engineered cell-based therapies, presented new data from the Phase I trial of NKR-2 in patients with acute myeloid leukemia (AML) and multiple myeloma (MM) at the 2016 American Society of Hematology (ASH) Annual Meeting being held in San Diego, CA from December 3-6, 2016. NKR-2 is a CAR-T product candidate using NKG2D, an NK Cell activating receptor transduced on T lymphocytes.

"*We are pleased with the early evidence of activity in AML and MM patients in our low single dose regime testing. This efficacy and clean safety profile support our belief that NKR-2 is differentiated from other CAR-T therapies in development*," said Dr. Christian Homsy, CEO of Celyad. "*We look forward to initiating our THINK (Therapeutic Immunotherapy with NKR-2) study designed to evaluate NKR-2 at higher doses and with multiple administrations in both solid and liquid tumors in the near term.*"

Data presented demonstrate the drug to be safe and well tolerated in the highest dose level tested to date ($3x10^7$) as well as showing early efficacy signals, including prolonged survival in both AML and MM patients. Highlights of the data include:

- Strong safety signals, including no cases of cytokine release syndrome, cell-related neurotoxicity, auto-immunity, or CAR-T related death.

- Although no blast reduction was observed, an AML patient reported no progression (3+months) and improvement in all hematological parameters under no additional therapy at the highest dose ($3x10^7$).
- Other previously reported patients also showed prolonged survival with unanticipated responses to subsequent treatments, and improvements in hematological parameters despite aggressiveness of baseline disease.
- *In vitro* testing of the two patients for which tumor samples were available showed that CAR-T NKR-2 destroyed tumor cells, confirming the relevance of the previously published pre-clinical work.

Dr. Frédéric Lehmann, VP Clinical Development & Medical Affairs at Celyad: "*We are very encouraged by these interim clinical and correlative data of this Phase I safety trial evaluating CAR-T NKR-2 in refractory AML and multiple myeloma patients who have limited or no treatment options. Celyad is eagerly awaiting the initiation of the THINK study designated to evaluate CAR-T NKR-2 at higher doses and with a multiple administrations schedule in these hematological indications and in five solid tumor types.*"

CAR-T NKR-2 Phase I trial data results were presented at the poster session of the ASH Annual Meeting, on Monday, December 5th 2016.
Title: Safety Data from a First-in-Human Phase 1 Trial of NKG2D Chimeric Antigen Receptor-T Cells in AML/MDS and Multiple Myeloma (Poster Presentation)
Abstract: 4052
Session: 616. Acute Myeloid Leukemia: Novel Therapy, excluding Transplantation: Poster III
Location: San Diego Convention Center, Hall GH

About the CAR-T NKR-2 Phase 1 Trial

The CAR-T NKR-2 Phase I trial is a single infusion, dose escalation study evaluating the safety and feasibility of NKR-2 CAR-T cells in AML and MM patients. 12 patients were treated at low escalating doses NKR-2 cells (max $3x10^7$). This study was completed in September 2016 with a successful safety follow-up for all dose level cohorts.

Conference Call Details (Conference ID: 30079023)

A conference call will be held on Wednesday, December 7, 2016 at 2:00pm (CET) / 8:00am (EDT) to review the topline results of the CAR-T NKR-2 Phase I safety trial and to present NKR-T clinical development plan with the initiation of the THINK trial. Christian Homsy, Chief Executive Officer, and David Gilham, Vice-President Research and Development, will deliver a brief presentation followed by a Q+A session.

Audio Conference Joining Instructions: in the ten minutes prior to call start time, call the appropriate Participant Dial-In Number listed below. Enter the following **Direct Event Passcode 3345179** and you will be joined automatically to the conference.

The call can be accessed by dialing the numbers below:

- Standard International Dial-in Number: +44 (0) 1452 553430
- Belgium Free Call Dial-In Number: 080048711
- France Free Call Dial-In Number: 0805631562
- UK Free Call Dial-In Number: 08006945720
- US Free Call Dial-In Number: 18663311865

The conference slideshow will be available during the call at

https://webconnect.webex.com/webconnect/onstage/g.php?MTID=e678a000da16ca49230d4c2560a8fec23

END

About Celyad

Celyad is a clinical-stage biopharmaceutical company focused on the development of specialized cell-based therapies. The Company utilizes its expertise in cell engineering to target severe diseases with significant unmet need, including cancer. Celyad's Natural Killer Receptor based T-Cell (NKR-T) platform has the potential to treat a broad range of solid and liquid tumors. Its lead oncology candidate, the CAR-T NKR-2, has been evaluated in a single dose escalation Phase I clinical trial to assess the safety and feasibility of NKR-2 T-cells in patients suffering from AML or MM. This Phase I study was successfully completed in September 2016. Celyad was founded in 2007 and is based in Mont-Saint-Guibert, Belgium, and Boston, Massachusetts. Celyad's ordinary shares are listed on the Euronext Brussels and Euronext Paris exchanges, and its American Depository Shares are listed on NASDAQ Global Market, all under the ticker symbol CYAD.

For more information about Celyad, please visit: www.celyad.com

About Celyad's NKR-T Cell Platform

Celyad is developing a unique CAR-T cell platform, using Natural Killer Receptor (NKR) transduced on to T lymphocytes. The platform targets a wide range of solid and hematological tumors. Unlike traditional CAR-T cell therapy, which target only one tumor antigen, Natural Killer (NK) cell receptors enable a single receptor to recognize multiple tumor antigens.

Celyad's lead candidate, NKR-2, is a CAR-T-Cell engineered to express the human NK receptor, NKG2D, which is an activating receptor that triggers cell killing through the binding of NKG2D to any of eight naturally occurring ligands that are known to be overexpressed on more than 80% of tumors.

Preclinical results indicate that NKR-2 has multiple mechanisms of actions and goes beyond direct killing by signifying that its encoded T-Cells attack the tumor cells, inhibits the mechanisms that enable tumors to evade the immune system, activates and recruit anti-tumor immune cells and disrupts the blood supply to the tumor. These mechanisms promote the induction of adaptive immunity, meaning the body develops a long-term cell immune memory against specific tumor antigens of the targeted tumor.

In contrast to traditional CAR-T therapeutic approaches, and based on strong preclinical evidence, Celyad's current NKR-2 program does not employ patient lymphodepleting pre-conditioning, thereby avoiding the toxicities associated with chemotherapy and allowing the immune system to remain intact.

Celyad is developing both autologous and allogeneic NKR-2 administrations. For autologous NKR-2, Celyad collects the patient's own T-Cells and engineers them to express NKG2D in order to target cancer cells effectively. Celyad's allogeneic platform engineers the T-Cells of healthy donors, that also express TCR Inhibitory Molecules (TIMs), to avoid having the engineered donor cells be rejected by the patient's normal tissues (also called Graft vs. Host Disease).

The preclinical research underlying this technology was originally conducted at Dartmouth College by Dr. Charles Sentman and has been published extensively in peer-reviewed publications.

For more information, please contact:

For Europe: Consilium Strategic Communications
Chris Gardner and **Chris Welsh -** T: +44 (0)20 3709 5700 – celyad@consilium-comms.com

For France: NewCap
Pierre Laurent and **Nicolas Mérigeau -** T: + 33(0)1 44 71 94 94 - celyad@newcap.eu

For Belgium: Comfi
Gunther De Backer and **Sabine Leclercq -** T.: +32 (0)2 290 90 90 – celyad@comfi.be

For the U.S.: Stern Investor Relations
Will O'Connor and **Michael Schaffzin –** T.: +1 212.362.1200 **–** celyad@sternir.com

To subscribe to Celyad's newsletter, visit www.celyad.com
Follow us on LinkedIn & Twitter @CelyadSA

Forward looking statements

In addition to historical facts or statements of current condition, this press release contains forward-looking statements, including statements about the potential safety and feasibility of CAR-T NKR-2 cell therapy and C-Cure, which reflect our current expectations and projections about future events, and involve certain known and unknown risks, uncertainties and assumptions that could cause actual results or events to differ materially from those expressed or implied by the forward-looking statements.

These forward-looking statements are further qualified by important factors, which could cause actual results to differ materially from those in the forward-looking statements, including risks associated with on-going *ex parte* re-examination of the Company's U.S. patent number 9,181,527, including the risk that the U.S. Patent and Trademark Office may decide to cancel all or a portion of the claims contained therein, risks associated with conducting clinical trials; the risk that safety, bioactivity, feasibility and/or efficacy demonstrated in earlier clinical or pre-clinical studies may not be replicated in subsequent studies; risk associated with the timely submission and approval of anticipated regulatory filings; the successful initiation and completion of clinical trials, including Phase III clinical trials for C-Cure® and Phase I clinical trial for CAR-T NKR-2; risks associated with the satisfaction of regulatory and other

requirements; risks associated with the actions of regulatory bodies and other governmental authorities; risks associated with obtaining, maintaining and protecting intellectual property, our ability to enforce our patents against infringers and defend our patent portfolio against challenges from third parties; risks associated with competition from others developing products for similar uses; risks associated with our ability to manage operating expenses; and risks associated with our ability to obtain additional funding to support our business activities and establish and maintain strategic business alliances and business initiatives.

A further list and description of these risks, uncertainties and other risks can be found in the Company's Securities and Exchange Commission filings and reports, including in the Company's Annual Report on Form 20-F filed with the SEC on April 8, 2016 and future filings and reports by the Company. Given these uncertainties, the reader is advised not to place any undue reliance on such forward-looking statements. These forward-looking statements speak only as of the date of publication of this document. The Company expressly disclaims any obligation to update any such forward-looking statements in this document to reflect any change in its expectations with regard thereto or any change in events, conditions or circumstances on which any such statement is based, unless required by law or regulation.