Press Release
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Celyad Announces Registration of the first patient in the Belgian THINK trial

- A first colorectal cancer patient has been registered at Institut Jules Bordet.
- CAR-T NKR-2 processing started yesterday at Celyad's manufacturing facility, in Mont-Saint-Guibert.

Mont-Saint-Guibert, Belgium - Celyad (Euronext Brussels and Paris, and NASDAQ: CYAD), a leader in the discovery and development of engineered cell-based therapies, today announced that the first patient of the Therapeutic Immunotherapy with NKR-2 (THINK) trial started cell processing in Belgium. Blood was collected from this patient and first CAR-T NKR-2 dose level infusion ($3x10^8$ cells) is expected in January 2017.

"*We are pleased to announce that the first patient has been registered in our Belgian Phase Ib trial of CAR-T NKR-2. After witnessing evidence of activity in our initial safety studies, we are enthusiastic about reporting data from this trial in 2017*," **said Christian Homsy, CEO of Celyad**. "*We look forward to expanding the trial to U.S.-based institutions and I would like to thank our clinical partners, and the Celyad team for enabling this milestone*."

Dr. Frédéric Lehmann, VP Clinical Development & Medical Affairs at Celyad: "*This is an important moment for Celyad. The THINK trial is aimed to demonstrate that CAR-T NKR-2 cells can deeply transform the way we treat cancer patients. The team keeps on showing its awe-inspiring ability to deliver in Research and Development, and the Company has now reached a cardinal inflection point to emerge as a key player in the CAR-T space.*"

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About the THINK trial

THINK (**TH**erapeutic **I**mmunotherapy with **NK**R-2) is a multinational (EU/US) open-label Phase Ib study to assess the safety and clinical activity of multiple administrations of autologous CAR-T NKR-2 cells in seven refractory cancers, including five solid tumors (colorectal, ovarian, bladder, triple-negative breast and pancreatic cancers) and two hematological tumors (acute myeloid leukemia and multiple myeloma).

The trial will test three dose levels adjusted to body weight: up to $3x10^8$, $1x10^9$ and $3x10^9$ CAR-T NKR-2 cells. At each dose, the patients will receive three successive administrations, two weeks apart, of CAR-T NKR-2 cells. The dose escalation part of the study will enroll up to 24 patients while the extension phase would enroll 86 additional patients.

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 CAR-T NKR-2 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, CAR-T 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 CAR- T 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 recruits 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 CAR-T NKR-2 administrations. For autologous CAR-T 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.

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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 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.