Press Release
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7:00 am CET

Celyad successfully completes safety follow-up of the second dose level of patients in its NKR-2 Trial and enrolls first patient in the third dose level

- The trial is a dose escalation study evaluating safety and feasibility of T-cell Natural Killer Receptor NKG2D in patients with acute myeloid leukemia or multiple myeloma.
- No dose limiting toxicity reported of the last patient of the second dose level.
- First patient of third dose level (10^7 cells) started cell processing.

Mont-Saint-Guibert, Belgium - Celyad (Euronext Brussels and Paris, and NASDAQ: CYAD), a leader in the discovery and development of engineered cell therapies, with clinical programs in cardiovascular disease and immuno-oncology, today announced the completion of the 21-day safety follow-up of the last patient enrolled in the second dose level in the Phase I/IIa clinical trial evaluating the safety and feasibility of its NKR-2 T-cell therapy using T-cells with NKG2D receptor in cancer patients suffering from acute myeloid leukemia (AML) or multiple myeloma (MM).

Dr. Christian Homsy, CEO of Celyad, said: *"The NKR-2 Phase I trial is progressing well. No product related safety issue were reported since the beginning of the trial. We look forward to treating the next patient who will be the first of the third dose cohort".*

Dr. Frédéric Lehmann, Head of Immuno-oncology at Celyad, added: *"We are pleased of the progression of this study which remains encouraging so far with no safety issue reported and a good enrolment of patients along the first two cohorts. We are grateful to our Phase 1 investigators at the Dana Farber Cancer Institute for their work to achieve this milestone".*

NKR stands for Natural Killer Receptor. NKG2D CAR T-cells are now called NKR-2 T-cells and the product development name is NKR-2.

Existing CAR-T cells are engineered using constructs encoding an antibody single chain variable fragment, the signalling domain of CD3 zeta and one or more co-stimulatory domain(s). While very favourable outcomes have been presented using CD19 based constructs, current CAR-T target a limited set of cancers. NKR-2 was generated by fusion of the native human NKG2D receptor gene with the human CD3 zeta cytoplasmic signalling domain and uses the natural co-stimulatory molecule DAP10. This new generation construct allows the targeting of a much broader set of cancers via the recognition of eight

well characterized NKG2D ligands, MICA, MICB and ULBP 1-6. Those ligands are expressed on most blood and solid tumors.

The Phase I trial is designed to assess the safety and feasibility of NKR-2, in two different haematological indications. The safety follow-up period post-infusion has been decreased to 21 days after approval by the U.S. Food and Drug Administration (FDA) and Institutional Review Board (IRB). Data readouts from the first 12 patients treated in the Phase I portion are expected in mid-2016, once a recommended dose is determined.

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About NKR-2

Celyad's lead immuno-oncology product candidate, NKR-2, is a T-Cell encoded to express the Natural Killer activating receptor, NKG2D. The technology developed by Celyad uses a human natural killer cell (NK cell) receptor which, unlike traditional CAR technologies, targeting the CD19 antigen, has the potential to target ligands expressed on a broad range of solid tumors and blood cancers.

The research underlying this technology was originally conducted by Dartmouth College Professor Charles Sentman, and has been published in numerous peer-reviewed publications such as Journal of Immunology in 2009, Cancer Research in 2006, and Blood in 2005. NKR-2 has an active Investigational New Drug (IND) application with the FDA for a Phase I clinical trial in certain hematologic cancers.

NKR-2 entered a Phase I clinical trial in April 2015. The full data readout from the Phase I dose escalation trial is expected in mid-2016. The trial is designed to assess the safety and feasibility of NKR-2 in acute myeloid leukemia and multiple myeloma patients, with secondary endpoints including clinical efficacy.

About Celyad

Founded in 2007, and based in Belgium, Celyad is a leader in engineered cell therapy with clinical programs initially targeting indications in cardiology and oncology. Celyad is developing its lead cardiovascular disease product candidate, C-Cure®, for the treatment of ischemic heart failure, and has completed enrollment of a Phase III trial in Europe and Israel. In addition, the Company is developing a next generation portfolio of CAR T-cell therapies that utilize human Natural Killer cell receptors for the treatment of numerous blood and solid cancers. Its lead oncology product candidate, NKR-2 (NKG2D CAR T-cell), entered a Phase I clinical trial in April 2015.

Celyad's ordinary shares are listed on Euronext Brussels and Euronext Paris under the ticker symbol CYAD and Celyad's American Depositary Shares are listed on the NASDAQ Global Market under the ticker symbol CYAD.

To learn more about Celyad, please visit www.celyad.com

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 NKR-2-cell therapy and C-Cure and the clinical potential of the Company's technology platform generally and the timing of future clinical trials, 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.

In particular it should be noted that the safety data described in the release are preliminary in nature and the Phase 1 trial is not completed. There is limited data concerning safety and feasibility of NKR-2. These data may not continue for these subjects or be repeated or observed in ongoing or future studies involving our NKR-2 therapy, C-Cure or other product candidates. It is possible that safety issues or adverse events may arise in the future.

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 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 prospectus filed with the SEC on June 19, 2015 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.