Celyad Oncology Presents Preliminary Data from Phase 1 IMMUNICY-1 Trial of shRNA-based Allogeneic CAR T Candidate CYAD-211 in Relapsed/Refractory Multiple Myeloma at the European Hematology Association Virtual Congress

- *Treatment with CYAD-211 generally well-tolerated at first two dose levels, with no evidence of Graft-versus-Host Disease observed*
- *Two partial responses observed among five evaluable patients*
- *Cell engraftment of CYAD-211 observed in all patients from dose level 2, with evidence of CAR T cells in all patients enrolled in first two dose cohorts*
- *Additional clinical data from the dose escalation trial are expected during second half 2021*
- *Management to host conference call later today, June 11, at 2 p.m. CET / 8 a.m. ET*

Mont-Saint-Guibert, Belgium – Celyad Oncology SA (Euronext & Nasdaq: CYAD), a clinical-stage biotechnology company focused on the discovery and development of chimeric antigen receptor T cell (CAR T) therapies for cancer, today announced preliminary data from the Phase 1 IMMUNICY-1 trial of CYAD-211 for the treatment of relapsed/refractory multiple myeloma (r/r MM) patients were presented at the European Hematology Association (EHA) 2021 Virtual Congress.

Filippo Petti, Chief Executive Officer of Celyad Oncology, commented, "We believe the initial data presented today are meaningful beyond the demonstrated clinical activity of CYAD-211. This is the first clinical trial evaluating the potential of shRNA as an allogeneic technology to underpin off-the-shelf CAR T candidates for the treatment of cancer, and today's data continue to demonstrate the potential value of non-gene edited technology to generate allogeneic CAR T cells. We are extremely encouraged by the cell kinetic, clinical activity and tolerability data for CYAD-211. As we work to establish shRNA as a platform for developing allogeneic CAR T therapies, these early data from the IMMUNICY-1 trial are key. In addition, we believe our future ability to employ multiple shRNAs in our CAR T candidates while leveraging our streamlined All-in-One Vector approach could be fundamental to the allogeneic CAR T landscape."

Dr. Sébastien Anguille, IMMUNICY-1 trial investigator and professor in the Division of Hematology of the Antwerp University Hospital said, "Even with great strides made in recent years, multiple myeloma remains largely incurable, creating a need for new therapeutic options. Unfortunately, most patients eventually relapse and we observe shorter duration and depth of responses to treatments over time. We are pleased with the encouraging initial data from the IMMUNICY-1 trial and we're eager to move forward with higher doses and continue to evaluate CYAD-211 in treating myeloma patients."

CYAD-211 and IMMUNICY-1 Phase 1 Trial Update

Background:

- CYAD-211 is an allogeneic CAR T candidate engineered to co-express a BCMA targeting chimeric antigen receptor and a single short hairpin RNA (shRNA), which interferes with the expression of the CD3ζ component of the T cell receptor complex.
- IMMUNICY-1 is a first-in-human, open-label, dose-escalation Phase 1 trial to determine the recommended dose of CYAD-211 in patients with r/r MM following preconditioning with cyclophosphamide (300 mg/m²) and fludarabine (30 mg/m²) given three consecutive days.
- The trial is designed to evaluate proof-of-concept that shRNA-mediated knockdown of the CD3ζ can generate allogeneic CAR T cells.

Safety and tolerability data:

Of the six patients dosed at the first two dose levels (30×10^6 and 100×10^6 cells per infusion):

- No dose limiting toxicity (DLT), Graft-versus Host disease (GvHD) or CAR T-cell-related encephalopathy syndrome (CRES) were observed in the first two dose cohorts.
- One cytokine release syndrome (CRS) Grade 1 (fever) requiring hospitalization occurred 10 days post CYAD-211 administration in patient 1 (dose level 1) who achieved a partial response (PR).
- One patient experienced an anemia adverse event (Grade 3) and neutropenia (Grade 4) possibly related to CYAD-211.

Clinical activity:

Of the five evaluable patients at the first two dose levels (30×10^6 and 100×10^6 cells per infusion):

- Two patients achieved a PR. Both patients were 'triple-therapy exposed' (previously treated with an immunomodulator (IMiD), a proteasome inhibitor and an anti-CD38 antibody).
- The three additional patients had stable disease (SD).

Cell kinetics:

- CYAD-211 cells were detected by PCR-based methods in all six patients from dose cohorts 1 and 2.
- Cell engraftment was seen in all three patients at dose level 2 at a similar magnitude. In addition, preliminary data suggest that all patients in dose level 2 showed deep lymphodepletion. Across dose level 1, the depth of lymphodepletion appears to correlate with the degree of observed systemic CAR T engraftment.

Next steps:

- Enrollment in dose cohort 3 (300×10^6 cells per infusion) is ongoing.
- Additional clinical data from the dose escalation trial are expected during second half 2021.
- shRNA technology platform to be highlighted at upcoming virtual R&D Day in Q3 2021.

Conference Call and Webcast Details

Celyad Oncology will host a conference call to discuss the update from EHA on Friday, June 11, 2021 at 2 p.m. CET / 8 a.m. ET. The conference call can be accessed through the following numbers:

United States: #1 877-407-9208

International: #1 201-493-6784

The conference call will be webcast live and can be accessed **here**. The event will also be archived and available on the "**Events**" section of the company's website. Please visit the website several minutes prior to the start of the broadcast to ensure adequate time for registration to the webcast.

About CYAD-211

CYAD-211 is an investigational, shRNA-based allogeneic CAR T candidate for the treatment of r/r MM. CYAD-211 is engineered to co-express an anti-BCMA targeting chimeric antigen receptor and a single shRNA to knockdown the CD3ζ component of the T cell receptor complex.

About IMMUNICY-1 Phase 1 trial

The open-label, dose-escalation trial will evaluate the safety and clinical activity of CYAD-211 following cyclophosphamide and fludarabine preconditioning chemotherapy in patients with relapsed or refractory multiple myeloma. The trial will evaluate multiple dose levels of CYAD-211: 30×10^6, 100×10^6 and 300×10^6 cells per infusion. For more information, please visit **www.clinicaltrials.gov**, study identifier number **NCT04613557**.

About Celyad Oncology

Celyad Oncology is a clinical-stage biotechnology company focused on the discovery and development of chimeric antigen receptor T cell (CAR T) therapies for cancer. The Company is developing a pipeline of allogeneic (off-the-shelf) and autologous (personalized) CAR T cell therapy candidates for the treatment of both hematological malignancies and solid tumors. Celyad Oncology was founded in 2007 and is based in Mont-Saint-Guibert, Belgium and New York, NY. The Company has received funding from the Walloon Region (Belgium) to support the advancement of its CAR T cell therapy programs. For more information, please visit **www.celyad.com**.

Forward-looking statements

This release may contain forward-looking statements, within the meaning of applicable securities laws, including the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements regarding the clinical activity and safety and tolerability of CYAD-211 and expectations regarding enrollment and the announcement of additional clinical data. Forward-looking statements may involve known and unknown risks and uncertainties which might cause actual results, financial condition, performance or achievements of Celyad Oncology to differ materially from those expressed or implied by such forward-looking statements. Such risk

and uncertainty include the duration and severity of the COVID-19 pandemic and government measures implemented in response thereto. A further list and description of these risks, uncertainties and other risks can be found in Celyad Oncology's U.S. Securities and Exchange Commission (SEC) filings and reports, including in its Annual Report on Form 20-F filed with the SEC on March 24, 2021 and subsequent filings and reports by Celyad Oncology. These forward-looking statements speak only as of the date of publication of this document and Celyad Oncology's actual results may differ materially from those expressed or implied by these forward-looking statements. Celyad Oncology 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.

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