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Subgroup:“ Lymphoma ”

“CeVi_CAR-T : a unique biological collection to support and accelerate research in the field of CAR-T cells therapy for lymphoma ”

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CAR-T drugs are revolutionizing therapeutic strategies for relapsed or refractory lymphomas. However, CAR-T efficacy and resistance mechanisms remain to be explored to optimize the line-up strategies of CAR-T therapies. This justifies a dynamic and adaptive collection of well-annotated biological samples from patients treated with CAR-T cells with the objective of providing epidemiological, clinical and biological information for research programs.

CALYM Carnot Institute and CRYOSTEM network are collaborating to set up CeVi_CAR-T, the first French harmonized collection of CAR-T cells treated lymphoma patients. The lymph node and peripheral blood collection is involving 6 sites, bringing hematology departments and biological resource centers for samples management. Network coordination benefits from CALYM and CRYOSTEM ISO9001 certification. Clinical data are taken from the LYSARC DESCAR-T registry and linked to the patient identifier of the EBMT ProMISe registry.

As of July 1, 2022, 176 patients were included, corresponding to 922 blood samples, derived in 4 542 plasma aliquots and in 1 653 viable cells aliquots. Inclusion criteria are dynamically reviewed according to the authorizations in use for CAR-T therapies in French hospitals. Overall, 140 Diffuse Large B Cell Lymphoma, 30 Mantle Cell Lymphoma and 6 Follicular

Lymphoma were included. CeVi_CAR-T collection has paired lymph nodes for 28 patients, derived into viable cells aliquots and bone marrow. A first project using plasma has highlighted an appropriate sample quality for metabolic analyses and a high synergy between CeVi and DESCAR-T databases.

With the creation of the first biobank focused on CAR-T cells treated lymphoma patients, CALYM-CRYOSTEM collaboration opens research perspectives by providing access to raw material. This would impact CAR-T cells treatments by consolidating knowledge on this recent cell-based therapeutic approach. The further challenge is including stool and urine samples.

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