

B-CELL ACUTE LYMPHOBLASTIC LEUKEMIA CAR T-CELL ELIGIBILITY CRITERIA - Adult (18+)

Diagnoses NOT specifically included in the Health Canada approved product monographs are not eligible for consideration.

Applications that do not satisfy all eligibility criteria are subject to additional review. This may extend the turnaround time to a funding decision.

It is the referring physician's responsibility to ensure all criteria are met at the time of CAR T-cell therapy assessment

THE PATIENT MUST MEET THE FOLLOWING CRITERIA:

Treatment History

- Patient has CD19+ B-cell acute lymphoblastic leukemia (B-cell ALL) and:
 - Philadelphia (Ph) chromosome negative and has:
 - Primary refractory disease; or
 - First relapse if remission is ≤ 12 months; or
 - Relapsed or refractory after two or more lines of systemic therapy; or
 - Relapsed or refractory after allogeneic stem cell transplant
 - Philadelphia (Ph) chromosome positive and has:
 - Intolerant to tyrosine kinase inhibitors (TKIs); or
 - Relapsed or refractory disease despite treatment with at least two different TKIs.
- Patient has morphological disease in the bone marrow or evidence of peripheral blood or extramedullary disease.
- Clinical frailty score < 6 (<https://www.dal.ca/sites/gmr/our-tools/clinical-frailty-scale.html>)
- ECOG performance status ≤ 2
- Patients must be at least 100 days from stem cell transplant and off of immunosuppressive medications for at least 4 weeks.
- Patient is sufficiently stable to travel out of province/country, to tolerate the wait between leukapheresis and CAR T-cell infusion therapy and to return to BC for bridging if required.

Organ Function

Patient must have adequate organ function. The ranges below are a guide for your patient to qualify for CAR T-cell therapy.

- Creatinine ≤ 141.44 $\mu\text{mol/L}$ and estimated glomerular filtration rate (eGFR) ≥ 45 mL/min/1.73m^2
- ALT or AST $\leq 3x$ upper limit of normal, total bilirubin $\leq 2x$ upper limit of normal
- Left ventricle ejection fraction (LVEF) $\geq 40\%$ confirmed by echocardiogram or MUGA
- Oxygen saturation $\geq 91\%$ on room air
- Absolute lymphocyte count (ALC) $> 0.1 \times 10^9/\text{L}$. Note: If ALC is below $0.1 \times 10^9/\text{L}$, application can be considered; but for apheresis to proceed, ALC must be at least $0.1 \times 10^9/\text{L}$.

Exclusion Criteria

- Active CNS involvement, defined as CNS-3 per National Comprehensive Cancer Network. Note: Patients with A) CNS-2 *without* clinically evident neurologic changes, or B) history of CNS disease that has been effectively treated, will be eligible.
- Pregnancy
- Active/uncontrolled Hepatitis B, C and HIV*
- Active grade 2-4 GVHD
- Ongoing systemic immunosuppression to treat GVHD
- Patients with concomitant genetic syndrome leading to bone marrow failure (i.e. Fanconi anemia, Kostmann syndrome, Shwachman or other known inherited bone marrow failure syndromes). Patients with Down Syndrome will not be excluded.
- Patients with Burkitt's lymphoma/leukemia (i.e. patients with mature B-cell ALL, leukemia with B-cell [slg positive and kappa or lambda restricted positivity] ALL, with FAB L3 morphology and/or a MYC translocation) or chronic myelogenous leukemia lymphoid blast crisis.
- Active malignancy other than B-cell ALL

*In the setting of controlled HIV, some CAR T-cell products may be considered on a case by case basis; certain CAR T-cell products remain contraindicated as per manufacturer's labeling.