Clinical Policy: Marnetegragene Autotemcel (Kresladi)

Reference Number: PA.CP.PHAR.599
Effective Date: 05/2026
Last Review Date: 04/2026

Description
Marnetegragene autotemcel (Kresladi™) is an autologous hematopoietic stem cell-based gene therapy carrying a functional copy of the integrin beta-2 (*ITGB2)* gene.

FDA Approved Indication(s)
Kresladi is indicated for the treatment of pediatric patients with severe leukocyte adhesion deficiency-I (LAD-I) due to biallelic variants in *ITGB2* without an available human leukocyte antigen (HLA)-matched sibling donor for allogeneic hematopoietic stem cell transplant (HSCT).

This indication is approved under accelerated approval based on increase in neutrophil CD18 and CD11a surface expression. Continued approval may be contingent upon verification and description of clinical benefit in a confirmatory trial(s).

Policy/Criteria
Provider must submit documentation (such as office chart notes, lab results or other clinical information) supporting that member has met all approval criteria.

All requests reviewed under this policy **require Precision Drug Action Committee (PDAC) Utilization Management Review.** Refer to CC.PHAR.21 for process details.

It is the policy of PA Health & Wellness® that Kresladi is **medically necessary** when the following criteria are met:

I. Initial Approval Criteria

A. Leukocyte Adhesion Deficiency Type 1 (must meet all)**:**

1. Diagnosis of LAD-I confirmed by flow cytometry indicating one of the following (a or b):
   a. CD18 expression on < 2% neutrophils (polymorphonuclear neutrophils [PMNs]);
   b. CD18 expression on ≥ 2% PMNs concurrently with all of the following (i, ii, and iii):
      i. CD11a or CD11b expression on < 2% PMNs;
      ii. Genetic testing showing pathogenic *ITGB2* gene mutation;
      iii. Clinical history consistent with LAD-I or a known family history (*see Appendix D for examples*);
2. Prescribed by or in consultation with both of the following (a and b):
   a. Transplant specialist;
   b. One of the following (i-iv):
      i. Hematologist;
      ii. Oncologist;
      iii. Immunologist;
      iv. Infectious disease specialist;

3. One of the following (a or b):
   a. Member has a documented family history of LAD-I;
   b. Member has had ≥ 1 prior significant bacterial or fungal infection (*see Appendix D for examples*);
4. Member has no available HLA-matched sibling donor;
5. Transplant specialist attestation that member is clinically stable and eligible to undergo myeloablative conditioning and HSCT;
6. Dose is a single infusion containing a minimum of 2.8 x 10^6 CD34+ cells/kg.

Approval duration: 3 months (one time infusion per lifetime)

B. Other diagnoses/indications

1. Refer to the off-label use policy if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): PA.CP.PMN.53

II. Continued Therapy

A. Leukocyte Adhesion Deficiency Type 1

1. Re-authorization is not permitted as Kresladi is indicated to be dosed one time only.

Approval duration: Not applicable

B. Other diagnoses/indications (must meet 1 or 2)**:**

1. Currently receiving medication via PA Health & Wellness benefit and documentation supports positive response to therapy or the Continuity of Care policy (PA.PHARM.01) applies.
   Approval duration: Duration of request or 12 months (whichever is less); or
2. Refer to the off-label use policy if diagnosis is NOT specifically listed under section III (Diagnoses/Indications for which coverage is NOT authorized): PA.CP.PMN.53

III. Diagnoses/Indications for which coverage is NOT authorized:

A. Non-FDA approved indications, which are not addressed in this policy, unless there is sufficient documentation of efficacy and safety according to the off label use policies – PA.CP.PMN.53

IV. Appendices/General Information

Appendix A: Abbreviation/Acronym Key

CD: cluster of differentiation
FDA: Food and Drug Administration
HLA: human leukocyte antigen
HSCT: hematopoietic stem cell transplantation
ITGB2: integrin beta-2
LAD-I: leukocyte adhesion deficiency type 1
PMN: polymorphonuclear neutrophil

Appendix B: Therapeutic Alternatives

Not applicable

Appendix C: Contraindications/Boxed Warnings

None reported

Appendix D: General Information

- Clinical history consistent with LAD-I includes as a hallmark symptom a delay in the detachment of the umbilical cord after birth (≥ 3 weeks) with frequent progression to inflammation of the umbilical cord stump and surrounding tissues (omphalitis); inflammation of the skin and mucous membranes (lining of the nose, mouth, gums); lack of pus formation at the sites of infection; and delayed wound healing due to impaired immune response.
- Significant bacterial and fungal infections are characterized as systemic, persistent, recurrent, severe, or progressing to large areas of the body. The infections most often affect the soft tissues such as skin, mucous membranes of the nose and the mouth causing gingivitis (inflammation of the gums), periodontitis (inflammation of the tissues around the teeth) but may also develop in other sites and cause chronic middle ear infections (otitis media), pneumonia, peritonitis, and deep abscesses. The infections develop shortly after birth and throughout infancy and may cause life-threatening complications in many cases if not addressed in a timely manner.

V. Dosage and Administration

Indication	Dosing Regimen	Maximum Dose
LAD-I	Minimum of 2.8 x 10^6 CD34+ cells/kg IV once	1 dose/lifetime

VI. Product Availability

Cell suspension for intravenous infusion: one or two infusion bags containing 0.34 to 6.1 x 10^6 cells/mL (including 0.32 to 6.1 x 10^6 CD34+ cells/mL) suspended in a cryopreservation solution; each infusion bag contains approximately 30 mL Kresladi**References**

VII. References

1. Kresladi Prescribing Information. Cranbury, NJ: Rocket Pharmaceuticals; March 2026. Available at: https://www.kresladi.com. Accessed March 31, 2026.
2. Booth C, Sevilla J, Almarza E, et al. Lentiviral gene therapy for severe leukocyte adhesion deficiency type 1. N Engl J Med. 2025; 392(17): 1698-1709.
3. ClinicalTrials.gov. Gene therapy for leukocyte adhesion deficiency-I (LAD-I): A phase I/II clinical trial to evaluate the safety and efficacy of the infusion of autologous hematopoietic stem cells transduced with a lentiviral vector encoding the ITGB2 gene. Available at: https://clinicaltrials.gov/ct2/show/NCT03812263. Accessed March 31, 2026.
4. McKusick, VA, Kniffin, CL. Leukocyte adhesion deficiency, type I; LAD-I. OMIM – Online Mendelian Inheritance in Man, Johns Hopkins University, 23 June 2025. Available at: https://omim.org/entry/116920?search=%22lad%20deficiency%22&highlight=%22lad%20deficiency%22. Accessed March 31, 2026.
5. National Library of Medicine: MedlinePlus. Leukocyte adhesion deficiency type 1. Last updated April 1, 2014. Available at: https://medlineplus.gov/genetics/condition/leukocyte-adhesion-deficiency-type-1/#frequency. Accessed March 31, 2026.
6. National Organization for Rare Disorders. Leukocyte adhesion deficiency syndromes. Last updated March 14, 2018. Available at: https://rarediseases.org/rare-diseases/leukocyte-adhesion-deficiency-syndromes. Accessed March 31, 2026.

Coding Implications
Codes referenced in this clinical policy are for informational purposes only. Inclusion or exclusion of any codes does not guarantee coverage. Providers should reference the most up-to-date sources of professional coding guidance prior to the submission of claims for reimbursement of covered services.

HCPCS Codes	Description
J3590	Unclassified biologics
C9399	Unclassified drugs or biologicals

Reviews, Revisions, and Approvals	Date
Policy created	04/2026