LSG LIFE SCIENCE GROUP

Product Information Sheet

Version v01 | Date 03.11.2026

Leukopaks

Product Overview

Leukopaks provide a concentrated source of mononuclear leukocytes, principally lymphocytes and monocytes, collected from screened healthy donors. Available fresh, split and cryopreserved, in full, half and quarter formats, they support cell therapy research, process development and assay development across a wide range of workflow, scheduling and study-design requirements.

Key Benefits

Applications

- **Cell therapy research and process development:** starting material for work involving immune-cell populations, including CAR-T, stem cell and immunotherapy workflows, from process development to clinical validation.
- **Assay development and validation:** consistent donor material across method development, validation and proficiency testing.
- **Multi-site studies:** split formats allow different sites to receive material from the same donor collection.
- **Comparative studies:** matched material supports comparisons between processes, instruments, laboratories, timepoints or experimental conditions.
- **Study scheduling and inventory:** cryopreserved material reduces dependence on immediate processing and simplifies study planning.

Advantages of using LSG Leukopaks

- High leukocyte concentration: at least 40 × 10^9 cells/L (fresh).
- Access to donor networks in the United States and Europe.
- Detailed blood profile including haemoglobin, haematocrit, complete blood count, lymphocyte count and monocyte count.
- Donors pre-screened through medical examination, with every donation tested against a full viral-marker panel.
- Donors are qualified individuals with prior plasma donation experience, adding an extra layer of safety.
- Low haemoglobin and haematocrit levels for high cell purity.
- Research-use-only and GMP formats available.
- Recall donors available on request, and a backup donor scheduled for every donation.

sales@lifesciencegroup.co.uk | www.lifesciencegroup.co.uk | +44 01234 889180 | The Science Centre, 1 Blaydon Rd, Sandy, Bedfordshire SG19 1RZ

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Specifications

Specification	Parameter
Cell Type	Mononuclear leukocytes, principally lymphocytes and monocytes
Donors	Pre-screened healthy donors with prior plasma donation experience; collection in the United States and Europe
Formats	Fresh (full, half), split fresh and cryopreserved (quarter, half, full)
Grade	Research use only (all formats); GMP available for fresh leukopaks
Leukocyte Concentration	Fresh: at least 40×10^9 cells/L. This is a concentration specification, not a guaranteed total cell count per leukopak.
Characterisation	Haemoglobin, haematocrit, complete blood count, lymphocyte count, monocyte count and cell-concentration analysis included. Immunophenotyping (CD3, CD4, CD8, CD14, CD19, CD56) available on request.
Virology	Every donation tested: HIV, HBV and HCV by NAT and serology; HTLV I/II, HAV, HEV, parvovirus B19, West Nile virus, syphilis and Chagas. Panels are subject to regional and regulatory requirements.
Post-thaw Performance	Cryopreserved: viability at least 90%; recovery at least 80%
Donor Documentation	Cryopreserved: age, gender, race, blood type and viral-screening records
HLA Selection	Available on request against customer-specified requirements; chargeable and subject to donor availability
Traceability	From donor eligibility and collection through testing, packaging and delivery

Product Formats

Fresh Leukopaks

Fresh leukopaks are collected from screened healthy donors and transported under temperature-controlled conditions, with shipment within 24 hours of collection to support cellular viability and functional performance. Available in full and half formats, as research-use-only or GMP material.

Split Leukopaks

Split leukopaks are produced by aseptically dividing a fresh leukopak using sterile welding and validated bags. Each unit contains the same leukocyte populations and concentrations as the

original leukopak, enabling multiple teams, sites or experimental conditions to work from the same donor material. Leukopaks are split at the point of collection and can be dispatched to customer-specified locations. Leukopaks are typically divided into two equal units; custom fill sizes and additional splits may be available on request.

- Closed-system sterile processing for aseptic division.
- Suitable for validation studies, assay development and proficiency testing.
- Supports comparisons across groups, timepoints or locations, technology transfer and multi-site protocol alignment.
- Can support longitudinal and stability studies, including repeat-donor programmes.

Cryopreserved Leukopaks

Cryopreserved leukopaks provide a ready-to-use inventory option for studies where immediate processing of fresh material is impractical. Material is collected from screened healthy donors and frozen using a controlled-rate process with cryoprotectant.

Each cryopreserved unit originates from a single fresh leukopak. A full cryopreserved leukopak yields 3–6 quarter cryobags of approximately 2.5×10^9 TNC each from one donor collection, with a minimum of 3 bags (approximately 7.5×10^9 TNC). Final bag number depends on donor yield.

- Post-thaw viability: at least 90%.
- Recovery: at least 80%.
- Long-term storage supports flexible study scheduling.

Ordering Information

Leukopaks are available in the following formats. Availability, collection location, donor characteristics, HLA requirements, testing requirements, release criteria and delivery arrangements are confirmed for each project.

Product Code	Product Description	Pack Size
LSG-732787-full	Full fresh leukopak	≥ 10×10^9 cells
LSG-732787-half	Half fresh leukopak	≥ 5×10^9 cells
LSG-736241-split	Split fresh leukopak	10×10^9 cell fresh leukopak split into two bags
LSG-734316-quarter	Quarter cryopreserved leukopak	1 × 50 mL (±5 mL) cryobag; 2.5×10^9 target cells (±10%)
LSG-734316-half	Half cryopreserved leukopak	2 × quarter cryobags (5×10^9 target cells in total)
LSG-734316-full	Full cryopreserved leukopak	3–6 × quarter cryobags from one donor; minimum 3 bags (approx. 7.5×10^9 TNC)*

**Final bag number depends on donor yield.*

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Custom donor requirements available on request.
HLA-matched, recallable and specified donors (e.g. by age, BMI or ethnicity) can be sourced and may incur additional charges. Please contact our team on sales@lifesciencegroup.co.uk.



Storage

Fresh: +2°C to +8°C.
Cryopreserved: long-term storage at -80°C.



Packaging & Shipping

Fresh: ships cold at +2°C to +8°C within 24 hours of collection.
Cryopreserved: ships on dry ice.

Quality Assurance

Leukopaks are collected by leukapheresis using closed-loop systems, with donors monitored throughout the procedure. The well-characterised donor pool covers all genders, blood groups, ages and backgrounds.

Collection centres are EMA- and FDA-audited, and every stage is governed by GMP protocols and validated SOPs, with traceability from donor eligibility and collection through testing, packaging and delivery. Fresh material is delivered under temperature control, and cryopreserved material is handled under a controlled cold chain.

Additional Information

HLA Donor Selection

HLA (Human Leukocyte Antigen) is a group of proteins found on the surface of most cells, including the white blood cells collected in leukopaks. HLA plays a central role in how the immune system recognises the body's own cells and distinguishes them from foreign cells, so it helps researchers select leukopaks from donors with the right immunological characteristics for their experiments.

Customers can provide specific HLA requirements, and the donor database is searched for a suitable match before collection. HLA-based donor selection is chargeable and subject to donor availability. HLA matching is customer-specific; no universal HLA loci panel or typing resolution is provided.

Choosing a Format

Fresh material is most appropriate where immediate access to high-viability cells and rapid processing are priorities. Cryopreserved material offers greater scheduling flexibility and defined post-thaw performance specifications. Split material is particularly useful where experimental comparability or same-donor material across multiple sites is important.

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