Sanguine Leukopaks
Disease State & Healthy Donors

High-quality, high-volume apheresis products and donor data from our extensive network of research-ready study participants

COMPREHENSIVE DONOR DATA

Confidently choose patients with **confirmed disease diagnosis** and **healthy matched controls**:

- Annotated medical records
- Study-specific questionnaires
- Infectious disease status
- HLA typing class 1 & 2
- Complete blood count (CBC)
- Demographics

RECALLABLE DONORS

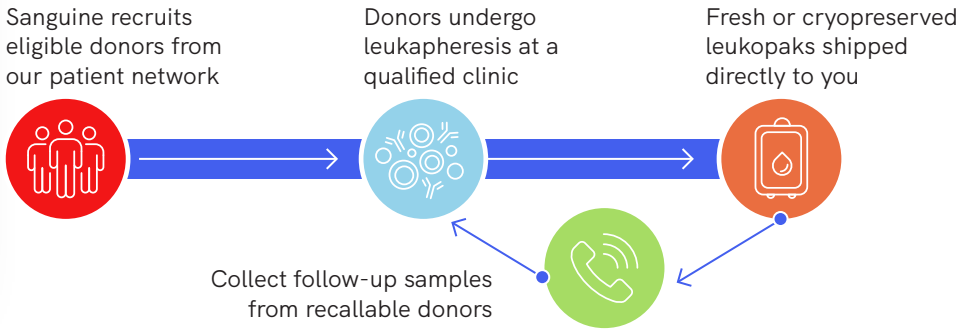
Strong relationships with a diverse, nationwide network of **70,000+ donors** and **100+ patient advocacy groups**

CONSISTENCY

Obtain up to **10 billion PBMCs** fresh or cryopreserved from one individual in a single donation

QUALITY

Strict adherence to standards and protocols ensures **high cell viability & recovery** while reducing variability



Apheresis-separated lymphocytes and monocytes (leukopaks) collected from the same donor provide a reliable and consistent source of peripheral blood mononuclear cells (PBMCs) for biomarker, immunology, autologous, and allogeneic cell therapy research.[1,2] Obtaining up to 10 billion PBMCs in a single donation from recallable individuals with annotated medical data can accelerate the development of diverse therapy programs, from discovery to manufacturing.

To facilitate translational, clinical, and product manufacturing investigations, Sanguine Biosciences offers fresh and cryopreserved leukapheresis products for Research Use Only. Leukopaks are collected at qualified apheresis clinics under an IRB-approved protocol.

Study participants are selected from our growing nationwide network of 70,000+ research-ready and recallable patients across multiple disease states, including autoimmune, metabolic, and genetic conditions. Identify matched controls among our extensive healthy donor database while limiting donor variability for assay validation and process development initiatives.

As the pioneer and leader in patient-centric, prospective, and nationwide human biospecimen procurement, Sanguine understands how streamlining sample accession expedites breakthroughs that benefit patients and researchers. Our experienced team and donor network participants are committed to facilitating your research and development of next-generation therapies.

Use Leukopaks for:

- Assay validation
- Process Development
- Rare cell isolation
- Cell & Gene Therapy

Take advantage of additional services:

- Mononuclear cell isolation (PBMCs, T, B, and/or NK cells)
- 100+ additional CLIA-certified diagnostic tests
- Prospective collection of additional samples from the same donor

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Sanguine

Disease states			
Crohn's Disease	Asthma	Gout	Psoriasis
Ulcerative Colitis	Atopic Dermatitis	Hashimoto's Disease	Pulmonary Arterial Hypertension
Systemic Lupus Erythematosus	CIDP	Hepatitis C	Scleroderma
Rheumatoid Arthritis	Chronic Kidney Disease	Hidradenitis Suppurativa	Sickle Cell Trait
Multiple Sclerosis	COPD	Hypercholesterolemia	Sjogren's Syndrome
Celiac Disease	Cystic Fibrosis	Hypertension	Vasculitis
HIV	Diabetes Type 1	Hypothyroidism	Vitiligo
Hepatitis B	Diabetes Type 2	Myasthenia Gravis	*Additional conditions being added, please inquire for updates*
Arthritis	Fibromyalgia	Osteoarthritis	

Use	Research Use Only (RUO)	
Collection method	Leukapheresis at qualified apheresis sites nationwide	
Cell viability measurement	Fluorescent-based cell counting (disease state and cryopreserved healthy)	
Compliance validation	▪ IRB approved protocol and HIPAA compliance ▪ Records tracked via clinical quality management system	
	Fresh	**Cryopreserved**
Collection size	Full (8–10 billion cells)	Full (8–10 billion cells) Half (4–6 billion cells)
Preservation and delivery	▪ Shipped same day for overnight delivery ▪ Same-day delivery available in select geographies	▪ Same-day cryopreservation in CryoStor CS-10 serum-free media ▪ Controlled-rate freezing with long-term storage in LN2 ▪ Shipped on dry ice overnight

Example Publications using Disease State and Healthy Donor PBMCs from Sanguine:

Science Translational Medicine

Human hypoimmune primary pancreatic islets avoid rejection and autoimmunity and alleviate diabetes in allogeneic humanized mice
PBMCs from a patient with type 1 diabetes were used to engraft an autologous, humanized autoimmune diabetes mouse model in testing a hypoimmune beta-cell replacement therapy.[3]

frontiers in Immunology

Signaling Through gp130 Compromises Suppressive Function in Human FOXP3+ Regulatory T Cells
Healthy donor PBMCs were used in ellucidating how gp130 expression reduces suppressive Treg function, a potentially novel therapeutic avenue for tuning Tregs.[4]

Search our network of 70,000+ study participants

Discuss a study design

[1]Mackensen A et al. (2022) Anti-CD19 CAR T cell therapy for refractory systemic lupus erythematosus. *Nat. Med.* 28: 2124–2132.
[2]Rodell CB, Koch PD, Weissleder R. (2019) Screening for new macrophage therapeutics. Theranostics. 9(25): 7714–7729.
[3]Hu X et al. (2023) Human hypoimmune primary pancreatic islets avoid rejection and autoimmunity and alleviate diabetes in allogeneic humanized mice. *Sci Transl Med.* 15: eadg5794.
[4]Dhuban et al. (2019) Signaling Through gp130 Compromises Suppressive Function in Human FOXP3+ Regulatory T Cells. *Front Immunol* 10:1532.

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