

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)
- Total Nucleated Cell count
- 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 immune cells** fresh or cryopreserved from one individual in a single donation



QUALITY

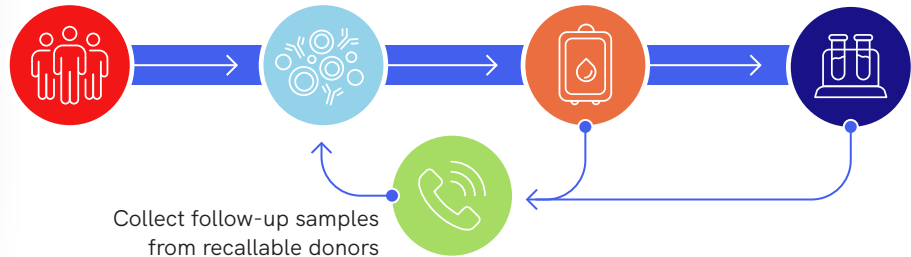
Strict adherence to standards and protocols ensures **high cell viability & recovery**, documented in a certificate of analysis

Sanguine recruits eligible donors from our patient network

Donors undergo leukapheresis at a qualified clinic

Fresh or cryopreserved leukopaks shipped directly to you

Or receive isolated PBMCs, T, B, or NK cells



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 billions of 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 from consenting donors at qualified apheresis clinics under an IRB-approved protocol. Upon request, PBMCs or lymphocytes can be further isolated into 25 or 100 million cell aliquots.

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.

You can screen for donors with distinct biomarker signatures before committing to a large-volume leukopak collection:

- Disease-state leukopaks: design an in-home, prospective study and recall specific donors.
- Healthy leukopaks: screen isolated PBMCs from inventory collections to obtain cryopreserved PBMC aliquots of the entire donation (≥ 4 billion cells) or recall specific donors for a fresh collection.

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)



200+ additional CLIA-certified diagnostic tests



Prospective collection of additional samples from the same donor

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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	Vitiligo
HIV	Diabetes Type 1	Hypothyroidism	<i>*Additional conditions being added, please inquire for updates</i>
Hepatitis B	Diabetes Type 2	Myasthenia Gravis	
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Shipped same day for overnight delivery Same-day delivery available in select geographies 	<ul style="list-style-type: none"> 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 hypimmune 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 hypimmune beta-cell replacement therapy.³



Signaling Through gp130 Compromises Suppressive Function in Human FOXP3+ Regulatory T Cells

Healthy donor PBMCs were used in elucidating 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



¹Mackensen A et al. (2022) [Anti-CD19 CAR T cell therapy for refractory systemic lupus erythematosus](#). *Nat. Med.* 28: 2124-2132.

²Rodell CB, Koch PD, Weissleder R. (2019) [Screening for new macrophage therapeutics](#). *Theranostics*. 9(25): 7714-7729.

³Hu X et al. (2023) [Human hypimmune primary pancreatic islets avoid rejection and autoimmunity and alleviate diabetes in allogeneic humanized mice](#). *Sci Transl Med*. 15: eadg5794.

⁴Dhuban et al. (2019) [Signaling Through gp130 Compromises Suppressive Function in Human FOXP3+ Regulatory T Cells](#). *Front Immunol* 10:1532.