



Scripps Health/Scripps Clinic Biorepository and Bioinformatics Core Monthly Report

12/2024

Specimen Collection

Total Aliquots: **58,467 (in physical inventory)**

Aliquots added in December: **654**

Total Samples: **24,863 (in physical inventory)**

Samples added in December: **145**

Specimens (aliquots) Released for Research in December: **127**

Total Specimens Released for Research: **11,081**

New Contributing Sources: **0**

Total Contributing MD Sources/locations: **25**

Participants

BR Consented: **3,169**

New Consents in December: **25**

Non-Consented Contributors (inherited studies/remnant specimens): **11,117**

Remnant Samples

COVID-19: **2,065**

FLU A: **1,227**

FLU B: **22**

RSV: **19**

Normals: **463**

Others: **132**

Normal Samples

Apparently Healthy Donors (Consented): **167**

Participants added in December: **0**

Primary Diagnosis Breakdown

Specimens added to Inventory

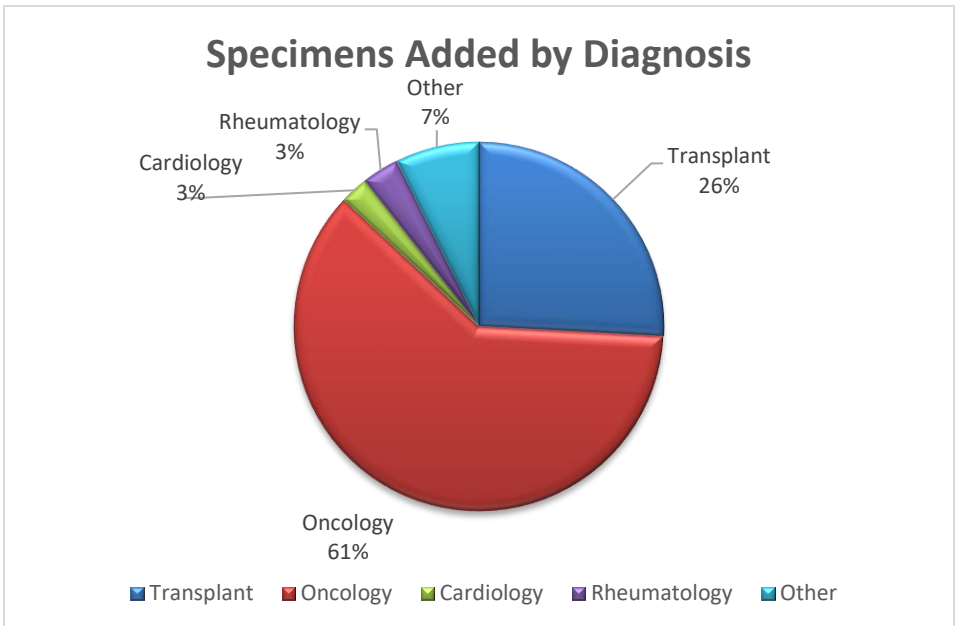
Transplant: **169**

Oncology: **400**

Cardiology: **16**

Rheumatology: **21**

Other: **48**



New Consents:

By Diagnosis

Oncology: **17**

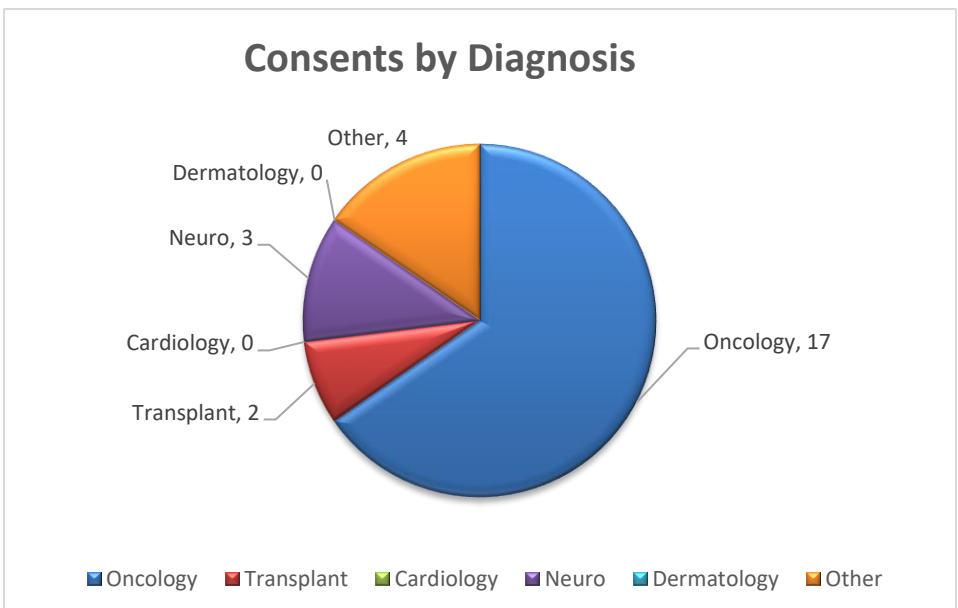
Transplant: **2**

Cardiology: **0**

Neuro: **3**

Dermatology: **0**

Other: **4**



Bio-Specimen Requests

Pending Requests:

Requests Approved by the Oversight Committee in December:

Recently Approved Requests:

Emily Crawford (DelveBio): The request is for bio samples, including pericardial fluid, ocular fluid, and pleural fluid. These samples will be used to develop a metagenomic next-generation sequencing assay for pathogen detection as part of a proof-of-concept study for their diagnostics.

Recent Publications from SCBBC Staff & Investigators Utilizing the SCBBC (2023-2024 FY)

1. Bhagar R, Gill SS, Le-Niculescu H, Yin C, Roseberry K, Mullen J, Schmitz M, Paul E, Cooke J, Tracy C, Tracy Z, Gettelfinger AS, Battles D, Yard M, Sandusky G, Shekhar A, **Kurian SM**, Bogdan P, Niculescu AB. Next-generation precision medicine for suicidality prevention. *Transl Psychiatry*. 2024 Sep 6;14(1):362. doi: 10.1038/s41398-024-03071-y.
2. Stephanie Almeida, William Snyder, Mita Shah, **Jonathan Fisher, Christopher Marsh**, Alana Hawkes, Diana Gorial, Sean DeWolf, **Dianne B. McKay**. Revolutionizing Deceased Donor Transplantation: How New Approaches to Machine Perfusion Broadens the Horizon for Organ Donation. *Transplantation Reports*. 2024.100160. ISSN2451-9596. <https://doi.org/10.1016/j.tpr.2024.10016>.
3. DeWolf SE, Hawkes AA, **Kurian SM**, Gorial DE, Hepokoski ML, Almeida SS, Posner IR, McKay DB. Human pulmonary microvascular endothelial cells respond to DAMPs from injured renal tubular cells. *Pulm Circ*. 2024 Jul;14(3):e12379. doi: 10.1002/pul2.12379. eCollection 2024 Jul. PubMed PMID: 38962184; PubMed Central PMCID: PMC11220341.
4. **S. Kurian**, J. Fleming, B. Barrick, **A. Martin, C. M. Marsh**. Diagnostic Performance of Peripheral Blood Gene Expression At 2 Months Post-transplant And Interim Correlation of Tests with Renal Function Over 2 Years. Abstract accepted as late breaking poster at the American Transplant Congress, Philadelphia, USA: June 1 – 5 2024.
5. **S. Kurian, A. Martin, E. Burgess, C. Marsh**. Serial Metagenomic Profiling Reveals Temporal Shifts in Microbial Composition in Kidney and Liver Transplant Recipients. Abstract accepted a poster at the American Transplant Congress, Philadelphia, USA: June 1 – 5 2024.
6. Hill MD, Gill SS, Le-Niculescu H, MacKie O, Bhagar R, Roseberry K, Murray OK, Dainton HD, Wolf SK, Shekhar A, **Kurian SM**, Niculescu AB. Precision medicine for psychotic disorders: objective assessment, risk prediction, and pharmacogenomics. **Mol Psychiatry**. 2024 Feb 8. doi: 10.1038/s41380-024-02433-8. Epub ahead of print. PMID: 38326562.
7. New J, Cham J, Smith L, Puglisi L, Huynh T, **Kurian S**, Bagsic S, Fielding R, Hong L, Reddy P, Eum KS, **Martin A, Barrick B, Marsh C**, Quigley M, Nicholson LJ, Pandey AC. Effects of antineoplastic and immunomodulating agents on postvaccination SARS-CoV-2 breakthrough infections, antibody response, and serological cytokine profile. **J Immunother Cancer**. 2024 Jan 31;12(1): e008233. doi: 10.1136/jitc-2023-008233. PMID: 38296596; PMCID: PMC10831464.
8. Long JJ, Motter JD, Jackson KR, Chen J, Orandi BJ, Montgomery RA, Stegall MD, Jordan SC, Benedetti E, Dunn TB, Ratner LE, Kapur S, Pelletier RP, Roberts JP, Melcher ML, Singh P, Sudan DL, Posner MP, El-Amm JM, Shapiro R, Cooper M, Verbese JE, Lipkowitz GS, Rees MA, **Marsh CL**, Sankari BR, Gerber DA, Wellen JR, Bozorgzadeh A, Gaber AO, Heher EC, Weng FL, Djarnali A, Helderma JH, Concepcion BP, Brayman KL, Oberholzer J, Kozlowski T, Covarrubias K, Massie AB, McAdams-DeMarco MA, Segev DL, Garonzik-Wang JM. Characterizing the risk of human leukocyte antigen-incompatible living donor kidney transplantation in older recipients. **Am J Transplant**. 2023 Sep 23: S1600-6135(23)00698-6. doi: 10.1016/j.ajt.2023.09.010. Epub ahead of print. PMID: 37748554.

9. Long JJ, Nijhar K, Jenkins RT, Yassine A, Motter JD, Jackson KR, Jerman S, Besharati S, Anders RA, Dunn TB, **Marsh CL**, Rayapati D, Lee DD, Barth RN, Woodside KJ, Philosophe B. Digital imaging software versus the "eyeball" method in quantifying steatosis in a liver biopsy. **Liver Transpl.** 2023 Mar 1;29(3):268-278. doi: 10.1097/LVT.000000000000064. Epub 2023 Jan 19. PMID: 36651194.
10. Towards precision medicine for anxiety disorders: objective assessment, risk prediction, pharmacogenomics, and repurposed drugs. Roseberry K, Le-Niculescu H, Levey DF, Bhagar R, Soe K, Rogers J, Palkowitz S, Pina N, Anastasiadis WA, Gill SS, **Kurian SM**, Shekhar A, Niculescu AB. **Mol Psychiatry.** 2023 Mar 7. doi: 10.1038/s41380-023-01998-0.

Active/in Startup Studies currently supported by the Biorepository.

Research Projects - Ongoing		Lead/BR Staff	Project Type	Mechanism	Funding	Study Description
1	Genzyme Proteomics Study	Kurian, Marsh	Study	Pilot Award	Scripps RIC	Proteomic profiling of post-transplant kidney patients to look at inflammatory responses
3	ARIMA Genomics cfDNA	Kurian, Marsh	Study	Pilot Award	SCMG	Profiling the promoter landscape of the genome in kidney transplant patients
4	LOMR Molecular Studies	Marsh, Deising, Kurian	Study	Pilot Award	Scripps RIC	Developing a clinical and molecular predictor of liver transplant outcomes
5	Metagenomic early post-transplant clinical outcomes in kidney transplant recipients	Kurian, Martin, Burgess	Study/Research Coordinator	Pilot Award	Scripps RIC	Looking at the responses in post-transplant microbiome profiles in the tissue urine and stool
6	KW Biomarker Project	Kurian, Marsh	Study	KW Award Subcontract	Kruger-Wyeth Settlement	Creating new molecular predictors of breast cancer using genomic and proteomic profiling
7	KW REFRESH Study	Kurian, Martin	Study	KW Award Subcontract	Kruger-Wyeth Settlement	Evaluate cognitive decline and dementia indicators in women
8	KW AM-WELL Project	Kurian, Martin	Study	KW Award Subcontract	Kruger-Wyeth Settlement	Creating care across the continuum of a patient's cancer journey by implementing a Breast Cancer Survivorship Program
9	ALTA TIPS	Deising, Martin	Research Coordinator	Academic Study	Univ of Michigan	Assess contemporary patterns of use of TIPS stents and associated patient related outcomes
10	Cardiac Amyloidosis Cohort	Mohan, BR Staff	Sample Collection	-	-	Cardiac Amyloid disease study of risk factors and molecular correlates

11	ClearNote (previously Bluestar Genomics)	Martin	Phlebotomy, Processing, Storage	Sponsored Study	ClearNote	Liquid Biopsy colorectal cancer detection
12	aiGENE	Kurian, Martin, Burgess	Study/Research Coordinator	Sponsor	aiGene - Industry	Measure the effectiveness of any cancer therapy. The technology is based on cfDNA and ctDNA binding properties.
13	DREAM BMT	Martin, Kurian	Study	Pilot Award	SCMG	Enhance the diagnosis, management, and overall care of patients undergoing allogeneic hematopoietic stem cell transplant (alloHSCT) who are at risk of developing Graft-versus-Host Disease (GVHD).
14	Surveil	Martin, Kurian, Burgess	Study	Sponsor	TGI	Registry study of biomarker guided immunosuppression in kidney transplant patients
15	Retro-ART	Martin, Kurian, Burgess	Study/Research Coordinator	Sponsor	Castle Biosciences, Inc. - Industry	To determine the efficacy of adjuvant radiation therapy (ART) in a population of subjects tested with the DecisionDx-SCC test
16	OCS Liver Perfusion Registry (OLP-II)	Martin, Kurian	Study	Sponsor	Transmedics - Industry	collect short and long-term post-transplant clinical outcomes data of donor livers preserved and assessed on OCS Liver system and to document performance of the OCS Liver device in the real-world setting
17	FETOLY Heart Study	Kurian	IRB Support	Sponsor	Diagnoly Inc	To evaluate the performance of Fetoly-Heart in automatically detecting and localizing standard fetal heart quality criteria.

Notes:

- Given the increasing demands for digital pathology and AI-driven studies, biorepository is considering the purchase of a digital image scanner or de-identification software to establish a repository of digital pathology images. Many recent requests from industry partners are focused on accessing such resources, highlighting the growing importance of this capability.
- SH/SCMG clinicians seeking study support through SHARS are now receiving assistance from the biorepository for preparing IRB submissions. Over the past month, we have successfully prepared two IRB applications. Moving forward, we are happy to extend this service to anyone requiring support with IRB applications.