



Scripps Health/Scripps Clinic Bio-Repository and Bio-Informatics Core Monthly Report

11/2021

Specimen Collection

Total Aliquots: **37,275 (in physical inventory)**

Aliquots added in November: **520**

% Change from previous month: **-5%**

% Change from previous year: **47%**

Total Samples: **16,191 (in physical inventory)**

Samples added in November: **332**

% Change from previous month: **4%**

% Change from previous year: **57%**

Specimens (aliquots) Released for Research in November: **11**

Total Specimens Released for Research: **6,958**

New Contributing Sources: **0**

Total Contributing MD Sources/locations: **22**

Participants

BR Consented: **1,857**

New Consents in November: **26**

Non-Consented Contributors (inherited studies/remnant specimens): **6,530**

COVID-19

COVID+ Patients: **1,582** (109 BR Consented, 1,516 from remnant clinical specimens)

Total COVID+ Aliquots (historical/in inventory): **4,687/2,310**

Aliquots added in November: **47**

Samples added in November: **45**

FLU

Flu A+: **755 (all dispatched)**

Flu B+: **338 (all dispatched)**

Normal Samples

Apparently Healthy Donors (Consented): **92**

Participants added in November: **0**

Apparently Healthy Donors (Remnant): **1,446**

Remnant AHD Specimens added in November: **0**

Primary Diagnosis Breakdown

Bio-Repository Consented Specimens

Organ Tx: 36%

Heme/Onc: 29%

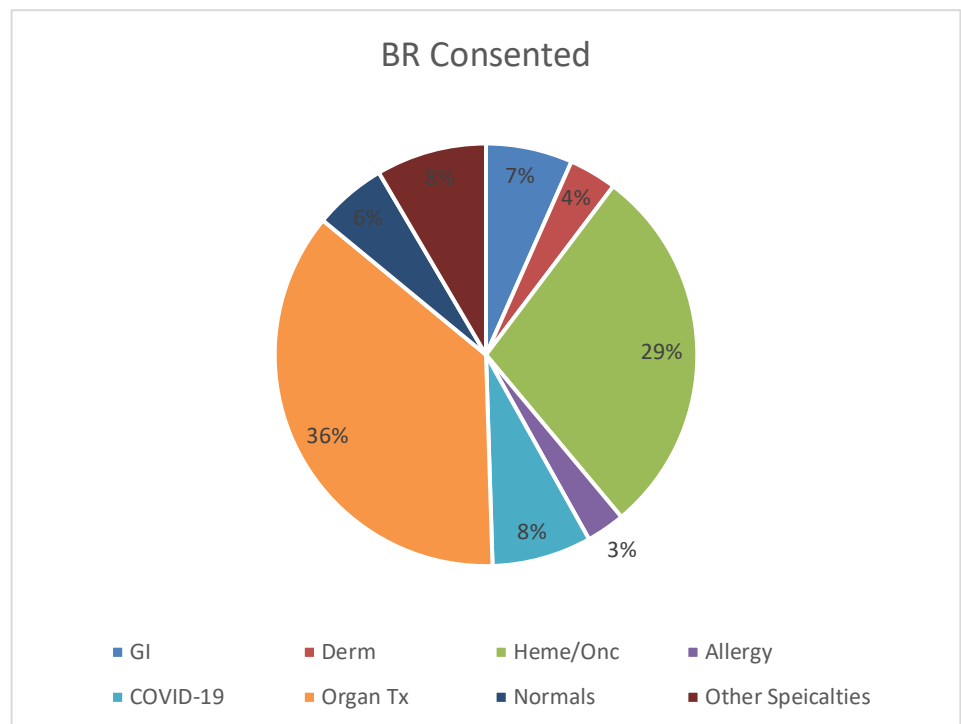
COVID-19: 8%

GI: 7%

Other Specialties: 8%

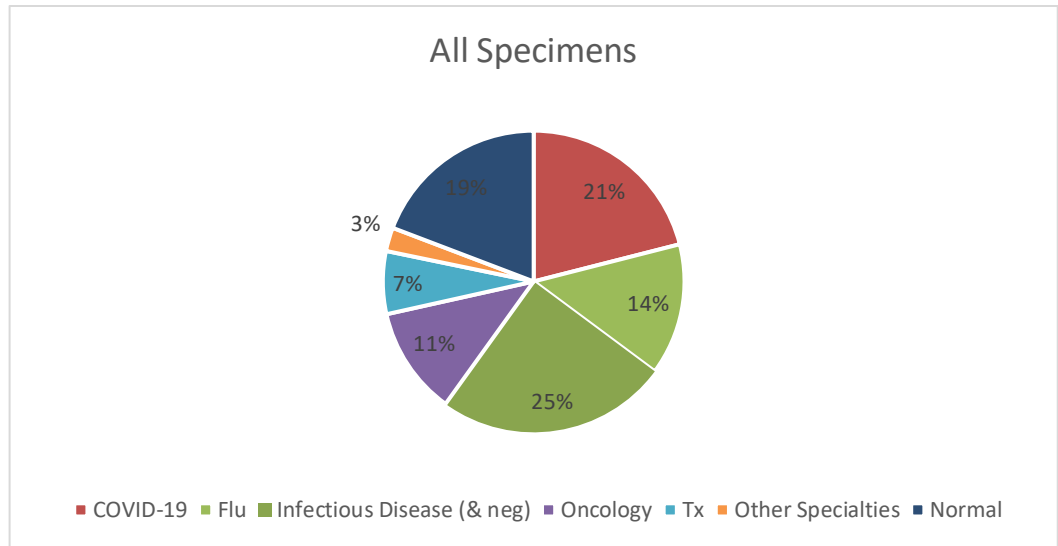
Normals: 6%

Dermatology: 4%



All Specimens (Including Inherited Studies):

Normals: 19%
Oncology: 11%
Organ Tx: 7%
COVID-19: 21%
Flu: 14%
Infectious Disease: 25%
Other: 3%



Bio-Specimen Requests

Pending Requests: 0

Requests Approved by the Oversight Committee in November: 0

Previously Approved Requests:

- **Ed Epslin (Invitae):** validate an Invitae proprietary in vitro diagnostic assay to measure clinically relevant genomic mutations for tumor profiling and companion diagnostic markers
- **Rick Hockett (Genalyte):** Validation of Maverick instrument
- **Dr. Amitabh Pandey (SCMG) and Dr. Klaus Ley (La Jolla Institute for Immunology):** Identifying key players in the humoral response to atherosclerosis.
- **Dr. Mike Nerenberg (Alamar Biosciences Inc.):** Development of organ-specific plasma markers for robust detection of liver disease.
- **Dr. Karen Menge (ChromaCode):** Development and verification of SARS-Cov2+Flu+RSV diagnostic PCR test.
- **Dr. Adam Deising (SCMG):** Discovery of molecular correlates of donor liver quality using clinical metrics from the liver outcome monitoring registry (LOMR).
- **Jasmine Reyes-Nocon & Jessica Soria (Hologic Inc):** Development of a diagnostic SARS-CoV-2 Flu assay.
- **Dr. Nobuki Nakanishi (Allele Biosciences):** Development of a point-of-care SARS-CoV-2 antigen detection kit using saliva or nasal swab, based on immunoassay.
- **Dr. Douglas Gibson & Dr. Amitabh Pandey (SCMG):** Association of genetic variants with risk of stroke in patients after left atrial appendage isolation.
- **Dr. Sirpa Riistama-Laari (ThermoFisher):** Cascadion™ SM clinical analyzer immunosuppressants panel on WB from solid organ Tx patients.
- **Steve Head (Scripps Research):** Evaluation of upper respiratory samples for detection of infectious disease.
- **Dr. Sujan Shresta (LJI):** Immune responses to SARS-CoV-2 infections including SARS-CoV-2 antibodies.

- **Dr. Quan Nhu (SCMG) & Dr. John Teijaro (Scripps Research):** Inflammatory and immunologic responses in SARS-CoV2-infected individuals.
- **Dr. Erene Mina (ThermoFisher):** High Throughput COVID/FLU testing.
- **Dr. Dena Marrinucci (Truvin Sciences):** SARS-CoV-2 antibody test development.
- **Dr. Andrew Thompson (Scripps Research):** Protein microarrays for high-throughput detection of SARS-CoV-2 neutralizing antibodies.
- **Dr. Sunil Kurian (SCMG):** Transplant biomarkers in PB MNC cell subsets using high-throughput RNAseq.
- **Dr. Tridu Huynh, Dr. Andrew White (SCMG) & Dr. Silke Paust (Scripps Research):** Immunophenotyping of innate and adaptive immunity in COVID-19 patients.
- **Dr. Paul Harris (Takeda) & Dr. Gauree Konijeti (SCMG):** Inflammatory bowel disease (IBD) registry.
- **Dr. Tridu Huynh (SCMG) & Dr. Silke Paust (Scripps Research):** Immunotherapy in a patient-derived xenograft model of human lung adenocarcinoma.
- **Dr. Jon Blevitt (Janssen Research & Development):** GVHD panel reactive antibodies (PRA) and complement dependent membrane attack complexes (MAC).
- **Dr. Jeff W Kelly (Scripps Research) & Dr. Anuj Mahindra (SCMG):** Development of small molecule kinetic stabilizers of amyloidogenic light chains to ameliorate cardiomyopathy.
- **Dr. Tom Alsaigh (SCMG):** Single cell RNA sequencing of human carotid artery following carotidarterectomy.
- **Dr. Sunil Kurian (SCMG):** (1) RNA integrity & gene expression profiling comparison between whole blood samples collected directly into PAXgene tubes vs. WB collected into EDTA tubes and then aliquoted at different time points and placed in aquapreserve. (2) Gene expression profiling of delayed graft function in peripheral blood and kidney allografts.
- **Dr. Shannon Fortin-Ensign (SCMG):** Genomics of glioblastoma multiforme recurrence in long term survival.
- **Dr. Fay Bestou (IBBL), Dr. Jamie Case & Bethany Barrick (SCMG):** Pre-analytic SPREC code analysis in plasma samples.
- **Dr. Brian Modena (SCMG):** Genomic analysis of epithelial growth and repair mechanisms in aspirin exacerbated respiratory disease (AERD).
- **Dr. Jorge Moscat (SBPMDI) & Dr. Darren Sigal (SCMG):** Metabolic vulnerabilities in colorectal cancer.
- **Dr. Fouad Moawad (SCMG):** Scripps eosinophilic esophagitis registry study.
- **Dr. Mark Sundrud (Scripps Research) & Dr. Gauree Konijeti (SCMG):** Autoimmune prevention in Ulcerative Colitis and Crohn's patients.
- **Dr. Leland Housman & Dr. Jamie Case (SCMG):** Differences in inflammatory cytokine levels between patients with varying severity of Chronic Venous Insufficiency.

Publications (From SCBBC Staff & Investigators Utilizing the SCBBC)

1. Sean E. DeWolf, Sashi G. Kasimsetty, Alana A. Hawkes, Lisa M. Stocks, **Sunil M. Kurian**, **Dianne B. McKay**, DAMPs Released From Injured Renal Tubular Epithelial Cells Activate Innate Immune Signals in Healthy Renal Tubular Epithelial Cells. *Transplantation*. In Press.
2. Park S, MD; Guo K; Heilman R, MD; Poggio E, MD; Taber D, PharmD, MS; **Marsh C, MD; Kurian S, PhD**; Kleiboeker S, PhD; Weems J, PhD; Holman J, MD, PhD; Zhao L, PhD; Sinha R, PhD; Brietigam S, BA, CCRC, CAPM; Rebello C; Abecassis M, MD, MBA; Friedewald J, MD. Combining Blood Gene Expression and Cell-Free DNA to Diagnose Subclinical Rejection in Kidney Transplant Recipients **Clinical Journal of the American Society of Nephrology**, August 2021.
3. Levitsky J, Kandpal M, Guo K, Zhao L, **Kurian S**, Whisenant T, Abecassis M. Prediction of Liver Transplant Rejection with a Biologically Relevant Gene Expression Signature. **Transplantation**. 2021 Jul 22. doi: 10.1097/TP.0000000000003895.
4. Decoteau MA, Stewart DE, Toll AE, **Kurian SM, Case J, Marsh CL**. The Advantage of Multiple Listing Continues in the Kidney Allocation System Era. **Transplant Proc**. 2021 Mar;53(2):569-580. doi: 10.1016/j.transproceed.2020.10.036. Epub 2021 Feb 3. PMID: 33549345.
5. Nicholson L, McLawhon RW, **Kurian S**, Fitzgerald RL, **Case J, Marsh C**, Quigley M. Healthcare worker seroconversion for SARS-CoV-2: Observation from two large health systems in San Diego. **American Journal of Infection Control**, 49(4):506-507, 2021.
6. Schutt R, **Case J, Kurian SM**, Bagsic S, **Barrick B**, Toll AE, Zhang JQ, Reed EF, Quigley MM, Schaffer R, Fisher JS, Rice JC, **Marsh CL**. Safety and efficacy of a steroid free immunosuppression regimen in renal transplant patients with de novo or pre-formed donor specific antibodies: A single center study. **Transplantation Proceedings**, 53(3):950-961, 2021.
7. Higgins RL, Rawlings SA, **Case J**, Lee F, Chan CW, **Barrick B**, Burger ZC, Yeo KTJ, Marrinucci D. Longitudinal SARS-CoV-2 antibody study using the Easy Check COVID-19 IgM/IgG™ lateral flow assay. **PLoS One**, March 4th, 16(3):e0247797, 2021.
8. Decoteau M, Stewart D, Toll A, **Kurian S, Case J, Marsh CL**. The advantage of multiple listing continues in the kidney allocation system era. **Transplantation Proceedings**, Accepted 30th October 2020.
9. Schutt R, **Case J, Kurian SM**, Bagsic S, **Barrick B**, Toll AE, Zhang JQ, Reed EF, Quigley MM, Schaffer R, Fisher JS, Rice JC, **Marsh CL**. Safety and efficacy of a steroid free immunosuppression regimen in renal transplant patients with de novo or pre-formed donor specific antibodies: A single center study. **Transplantation Proceedings**, Accepted 20th October 2020.
10. **Kurian SM**, Gordon S, **Barrick B**, Dadlani MN, Fanelli B, Cornell JB, Head SR, **Marsh CL, Case J**. Feasibility and comparison study of fecal sample collection methods in healthy volunteers and solid organ transplant recipients using 16S rRNA and metagenomics approaches. **Biopreservation and Biobanking**, 18(5):425-440, 2020.
11. **Kurian SM**, Bagsic S, **Case J, Barrick B**, Schaffer R, Rice JC, **Marsh CM**. UNOS/OPTN data guided assessment of IgA nephropathy recurrence after kidney transplantation and evaluation of immunosuppressive protocols in a steroid free center. **Transplantation Reports**, 5(4):100063, 2020.
12. Callahan CM, Apostolova LG, Gao S, Risasher SL, **Case J**, Saykin AJ, Lane KA, Swinford CG, Yoder MC. Novel markers of angiogenesis in the setting of cognitive impairment and dementia. **Journal of Alzheimer's Disease**, 75(3):759-769, 2020.

13. Levitsky J, Asrani SK, Schiano T, Moss A, Chavin K, Miller C, Guo K, Zhao L, Kandpal M, Bridges N, Brown M, Armstrong B, **Kurian S**, Demetris AJ, Abecassis M. Discovery and validation of a novel blood-based molecular biomarker of rejection following liver transplantation. In Press, *American Journal of Transplantation*, April 2020.
14. Le-Niculescu H, Roseberry K, Levey DF, Rogers J, Kosary K, Prabha S, Jones T, Judd S, McCormick MA, Wessel AR, Williams A, Phalen PL, Mamdani F, Sequeira A, **Kurian SM**, Niculescu AB. Towards precision medicine for stress disorders: diagnostic biomarkers and targeted drugs. *Molecular Psychiatry*, 25(5):918-938, 2020.
15. Niculescu AB, Le-Niculescu H, Roseberry K, Wang S, Hart J, Kaur A, Robertson H, Jones T, Strasburger A, Williams A, **Kurian SM**, Lamb B, Shekhar A, Lahiri DK, Saykin AJ. Blood biomarkers for memory: toward early detection of risk for Alzheimer disease, pharmacogenomics, and repurposed drugs. In Press, *Molecular Psychiatry*, December 2019.
16. Ventura CG, Whisenant T, Gelbart T, David DSR, Agena F, Salomon DR, David-Neto E, **Kurian SM**. Discovery and cross-validation of peripheral blood and renal biopsy gene expression signatures from ethnically diverse kidney transplant populations. *American Journal of Transplantation*, 19(12):3356-3366, 2019.
17. Levitsky J, Burrell BE, Kanaparathi S, Turka LA, **Kurian S**, Sanchez-Fueyo A, Lozano JJ, Demetris A, Lesniak A, Kirk AD, Stempora L, Yang GY, Mathew JM. Immunosuppression withdrawal in liver transplant recipients on sirolimus. In Press, *Hepatology*, November 2019.
18. Chandrasekaran A, Molparia B, Akhtar E, Wang X, Lewis JD, Chang JT, Oliveira G, Torkamani A, Konijeti GG. The autoimmune protocol diet modifies intestinal RNA expression in inflammatory bowel disease. *Crohn's & Colitis 360*, 1(3):otz016, 2019.
19. Chandrasekaran A, Groven S, Lewis JD, Levy SS, Diamant C, Singh E, Konijeti GG. An Autoimmune Protocol Diet Improves Patient-Reported Quality of Life in Inflammatory Bowel Disease. *Crohn's & Colitis 360*, 1(3):otz019, 2019.
20. **Marsh CL, Kurian SM**, Rice JC, Whisenant, TC, David J, Rose S, Schieve C, Lee D, **Case J, Barrick B**, Peddi VR, Mannon R, Knight R, Maluf D, Mandelbrot D, Patel A, Friedewald JJ, Abecassis MA, First MR. Application of TruGraf®: A novel molecular biomarker for managing kidney transplant recipients with stable renal function. *Transplantation Proceedings*, 51(3):722-728, 2019.
21. First MR, Peddi VR, Mannon R, Knight R, **Marsh CL, Kurian SM**, Rice JC, Maluf D, Mandelbrot D, Patel A, David J, Schieve C, Lee D, Lewis P, Friedewald JJ, Abecassis MM, Rose S. Investigator Assessment of the Utility of the TruGraf Molecular Diagnostic Test in Clinical Practice. *Transplantation Proceedings*, 51(3):729-733, 2019.
22. Niculescu AB, Le-Niculescu H, Levey DF, Roseberry K, Soe KC, Rogers J, Khan F, Jones T, Judd S, McCormick MA, Wessel AR, Williams A, **Kurian SM**, White FA. Towards precision medicine for pain: diagnostic biomarkers and repurposed drugs. *Molecular Psychiatry*, 24(4):501-522, 2019.

23. Friedewald J, Abecassis M, **Kurian S**. Gene expression biomarkers for kidney transplant rejection - The entire landscape. *EBioMedicine*, 42:41, 2019.
24. Sharma S, Gioia L, Abe B, Holt M, Costanzo A, Kain L, Su A, Teyton L. Using single cell analysis for translational studies in immune mediated diseases: Opportunities and challenges. *Molecular Immunology*, 103:191-199,2019.
25. Reese ML, Knapp DW, Anderson KM, Mund JA, **Case J**, Jones DR, Packer RA. In vitro effect of chlorambucil on human glioma cell lines (SF767 and U87-MG), and human microvascular endothelial cell (HMVEC) and endothelial progenitor cells (ECFCs), in the context of plasma chlorambucil concentrations in tumor-bearing dogs. *PLoS One*, 13(9): e0203517, 2018.
26. Guss LG, **Case J**, Javvaji S, **Barrick B**, Schaefer KN, Gilbertson R, Waalen J, Greenway HT, Housman LB. Differences in inflammatory cytokine levels between patients with varying severity of chronic venous insufficiency. *Journal of Vascular Medicine and Surgery*, 6(3):363 (Pages 1-6),2018.
27. Betsou F, Bilbao R, **Case J**, Chuaqui R, Clements JA, De Souza Y, De Wilde A, Geiger J, Grizzle W, Guadagni F, Gunter E, Heil S, Kiehntopf M, Koppandi I, Lehmann S, Linsen L, Mackenzie-Dodds J, Quesada RA, Tebbakha R, Selander T, Shea K, Sobel M, Somiari S, Spyropoulos D, Stone M, Tybring G, Valyi-Nagy K, Wadhwa L. Standard PREanalytical code version 3.0. *Biopreservation & Biobanking*, 16(1):9-12, 20

