

# Stanford

---



## Norman J. Lacayo, MD

Associate Professor of Pediatrics (Hematology and Oncology)  
Pediatrics - Hematology & Oncology

### CLINICAL OFFICE (PRIMARY)

- **Bass Cancer Center for Childhood Cancer and Blood Diseases**

725 Welch Rd

MC 5913

Palo Alto, CA 94304

**Tel** (650) 497-8953      **Fax** (650) 497-8959

### Bio

---

### CLINICAL FOCUS

- Hematology/Oncology/Stem Cell Transplant, Pediatric
- Oncology (Cancer), Pediatric
- AML, childhood and adolescent/young adult
- ALL, childhood and adolescent/young adult
- lymphoblastic lymphoma, childhood
- Pediatric Hematology-Oncology

### ACADEMIC APPOINTMENTS

- Associate Professor - University Medical Line, Pediatrics - Hematology & Oncology
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Stanford Cancer Institute

### ADMINISTRATIVE APPOINTMENTS

- Member, Cancer Center, (2007- present)
- Myeloid Steering Committee, Children's Oncology Group, (2007- present)
- Director, Pediatric Oncology Experimental Therapeutics Investigators' Consortium [POETIC], (2019- present)

### HONORS AND AWARDS

- Member, Alpha Omega Alpha (1990)
- New Approaches in Pediatric Myeloid Leukemia, V Foundation (10/09-09/12)
- Banking Acute Leukemia Specimens at Lucile Packard Children's Hospital: Hyundai Infrastructure Grant, Hyundai Foundation (10/11-09/12)
- Molecular and Pharmacologic Correlates of Acute Myeloid Leukemia in Down Syndrome, NIH ROI subcontract from Wayne State University (01/09-04/16)

## PROFESSIONAL EDUCATION

- Board Certification: Pediatric Hematology-Oncology, American Board of Pediatrics (2022)
- Medical Education: University of California at San Francisco School of Medicine (1989) CA
- Internship: UCSF Medical Center (1990) CA
- Residency: UCSF Medical Center (1992) CA
- Fellowship: Stanford University Medical Center (1995) CA
- MD, U.C., San Francisco, Medicine (1989)
- BA, U. C., Berkeley, Biochemistry (1985)

## LINKS

- Research Gate: [http://www.researchgate.net/profile/Norman\\_Lacayo/](http://www.researchgate.net/profile/Norman_Lacayo/)

## Research & Scholarship

---

### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Pediatric Hematology/Oncology, Phase I drug studies for refractory and relapsed leukemia; genomic studies, biologic risk-stratification and treatment of acute myeloid leukemia; prediction or induction response and risk of relapse using phosphoproteomics in childhood AML; novel MRD techniques in childhood ALL.

### CLINICAL TRIALS

- A Study Evaluating the Safety, Tolerability, Pharmacokinetics and Preliminary Activity of Idasanutlin in Combination With Either Chemotherapy or Venetoclax in Treatment of Pediatric and Young Adult Participants With Relapsed/Refractory Acute Leukemias or Solid Tumors, Recruiting
- A Study to Test the Safety and Efficacy of the Drug Larotrectinib for the Treatment of Tumors With NTRK-fusion in Children, Recruiting
- Dose Escalation Study of CLR 131 in Children, Adolescents, and Young Adults With Relapsed or Refractory Malignant Tumors Including But Not Limited to Neuroblastoma, Rhabdomyosarcoma, Ewings Sarcoma, and Osteosarcoma, Recruiting
- Niclosamide in Pediatric Patients With Relapsed and Refractory AML, Recruiting
- Phase I Dose Escalation Study of CD19/CD22 Chimeric Antigen Receptor (CAR) T Cells in Children and Young Adults With Recurrent or Refractory B Cell Malignancies, Recruiting
- Protocol for Collecting, Banking and Distributing Human Tissue Samples: St. Jude Children's Research Hospital Tissue Resources Core Facility, Recruiting
- Study of Talazoparib in Combination With Chemotherapy in Relapsed Pediatric AML to Determine Safety and Efficacy, Recruiting
- Study of Venetoclax in Combination With Chemotherapy in Pediatric Patients With Refractory or Relapsed Acute Myeloid Leukemia or Acute Leukemia of Ambiguous Lineage, Recruiting
- Total Therapy XVII for Newly Diagnosed Patients With Acute Lymphoblastic Leukemia and Lymphoma, Recruiting
- A Trial of Epigenetic Priming in Patients With Newly Diagnosed Acute Myeloid Leukemia, Not Recruiting
- Efficacy and Safety of Decitabine as Epigenetic Priming With Induction Chemotherapy in Pediatric Acute Myelogenous Leukemia (AML) Subjects, Not Recruiting
- Genome, Proteome and Tissue Microarray in Childhood Acute Leukemia, Not Recruiting
- Safety and Dose Finding Study of Neratinib in Children and Young Adults With Cancer That Has Returned or Not Responded to Treatment, Not Recruiting
- Total Therapy for Infants With Acute Lymphoblastic Leukemia (ALL) I, Not Recruiting

## Publications

---

### PUBLICATIONS

- **Menin inhibitors as targeted therapeutics in KMT2a rearranged infant leukemia and the identification of effective treatment combinations.**  
Sharma, R., Zhang, C., Maese, L., Lacayo, N., Narendran, A.  
LIPPINCOTT WILLIAMS & WILKINS.2022
- **CytofIn enables integrated analysis of public mass cytometry datasets using generalized anchors.** *Nature communications*

- Lo, Y., Keyes, T. J., Jager, A., Sarno, J., Domizi, P., Majeti, R., Sakamoto, K. M., Lacayo, N., Mullighan, C. G., Waters, J., Sahaf, B., Bendall, S. C., Davis, et al  
2022; 13 (1): 934
- **GPC2-CAR T cells tuned for low antigen density mediate potent activity against neuroblastoma without toxicity** *CANCER CELL*  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Zhelev, D., Majzner, R. G., Radosevich, M. T., Dhingra, S., Sotillo, E., Buongervino, S., Pascual-Pasto, G., Garrigan, E., Xu, P., Huang, et al  
2022; 40 (1): 53-+
  - **GPC2-CAR T cells tuned for low antigen density mediate potent activity against neuroblastoma without toxicity.** *Cancer cell*  
Heitzeneder, S., Bosse, K. R., Zhu, Z., Zhelev, D., Majzner, R. G., Radosevich, M. T., Dhingra, S., Sotillo, E., Buongervino, S., Pascual-Pasto, G., Garrigan, E., Xu, P., Huang, et al  
1800
  - **Comparison of the Transcriptomic Signatures in Pediatric and Adult CML.** *Cancers*  
Youn, M., Smith, S. M., Lee, A. G., Chae, H., Spiteri, E., Erdmann, J., Galperin, I., Jones, L. M., Donato, M., Abidi, P., Bittencourt, H., Lacayo, N., Dahl, et al  
1800; 13 (24)
  - **Identification and in vitro validation of neoantigens for immune activation against high-risk pediatric leukemia cells.** *Human vaccines & immunotherapeutics*  
Thakur, S., Jain, M., Zhang, C., Major, C., Bielamowicz, K. J., Lacayo, N. J., Vaske, O., Lewis, V., Murguia-Favela, L., Narendran, A.  
2021: 1-5
  - **A comprehensive circulating tumor DNA assay for detection of translocation and copy number changes in pediatric sarcomas.** *Molecular cancer therapeutics*  
Shah, A. T., Azad, T. D., Breese, M. R., Chabon, J. J., Hamilton, E. G., Straessler, K., Kurtz, D. M., Leung, S. G., Spillinger, A., Liu, H., Behroozfard, I. H., Wittber, F. M., Hazard, et al  
2021
  - **Activated Natural Killer Cells Predict Poor Clinical Prognosis in High-risk B- and T- cell Acute Lymphoblastic Leukemia.** *Blood*  
Duault, C., Kumar, A., Taghi Khani, A., Lee, S. J., Yang, L., Huang, M., Hurtz, C., Manning, B., Ghoda, L. Y., McDonald, T., Lacayo, N. J., Sakamoto, K. M., Carroll, et al  
2021
  - **Engineered Type 1 Regulatory T Cells Have a Cytotoxic Profile and Kill Pediatric Acute Myeloid Leukemia Cells**  
Sayitoglu, E., Uyeda, M., Liu, J. M., Cieniewicz, B., Chen, P., Lacayo, N., Cepika, A., Roncarolo, M.  
CELL PRESS.2021: 317
  - **Venetoclax and Navitoclax in Combination with Chemotherapy in Patients with Relapsed or Refractory Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma.** *Cancer discovery*  
Pullarkat, V. A., Lacayo, N. J., Jabbour, E., Rubnitz, J. E., Bajel, A., Laetsch, T. W., Leonard, J., Colace, S. I., Khaw, S. L., Fleming, S. A., Mattison, R. J., Norris, R., Opferman, et al  
2021
  - **Safety, pharmacokinetics, and pharmacodynamics of panobinostat in children, adolescents, and young adults with relapsed acute myeloid leukemia.** *Cancer*  
Karol, S. E., Cooper, T. M., Mead, P. E., Crews, K. R., Panetta, J. C., Alexander, T. B., Taub, J. W., Lacayo, N. J., Heym, K. M., Kuo, D. J., Schiff, D. E., Bhojwani, D., Ge, et al  
2020
  - **Extracellular Vesicle and Particle Biomarkers Define Multiple Human Cancers.** *Cell*  
Hoshino, A., Kim, H. S., Bojmar, L., Gyan, K. E., Cioffi, M., Hernandez, J., Zambirinis, C. P., Rodrigues, G., Molina, H., Heissel, S., Mark, M. T., Steiner, L., Benito-Martin, et al  
2020
  - **Integrative analysis of whole-genome and RNA sequencing in high-risk pediatric malignancies**  
Shah, A. T., Breese, M. R., Lee, A. G., Martell, H. J., Tanasa, B., Leung, S. G., Spillinger, A., Liu, H., Behroozfard, I., Phuong Dinh, Hazard, F. K., Cho, S., Rangaswami, A., et al  
AMER ASSOC CANCER RESEARCH.2020: 90-91
  - **Comparative gene expression analysis for identification and prioritization of therapeutic targets in a cohort of childhood cancers**  
Sanders, L. M., Lyle, A., Beale, H. C., Kephart, E., Learned, K., Peralez, J., Lacayo, N., Rangaswami, A., Spunt, S. L., Bjork, I., Haussler, D., Salama, S. R., Vaske, et al

AMER ASSOC CANCER RESEARCH.2020: 66

- **Delayed cancer diagnoses and high mortality in children during the COVID-19 pandemic.** *Pediatric blood & cancer*  
Ding, Y., Ramakrishna, S., Long, A. H., Phillips, C. A., Montiel-Esparza, R., Diorio, C. J., Bailey, L. C., Maude, S. L., Aplenc, R., Batra, V., Reilly, A. F., Rheingold, S. R., Lacayo, et al  
2020: e28427
- **Metabolomics in acute myeloid leukemia.** *Molecular genetics and metabolism*  
Wojcicki, A. V., Kasowski, M. M., Sakamoto, K. M., Lacayo, N.  
2020
- **Venetoclax in combination with cytarabine with or without idarubicin in children with relapsed or refractory acute myeloid leukaemia: a phase 1, dose-escalation study.** *The Lancet. Oncology*  
Karol, S. E., Alexander, T. B., Budhraj, A., Pounds, S. B., Canavera, K., Wang, L., Wolf, J., Klco, J. M., Mead, P. E., Das Gupta, S., Kim, S. Y., Salem, A. H., Palenski, et al  
2020
- **Repurposing Drugs for Acute Myeloid Leukemia: A Worthy Cause or a Futile Pursuit?** *Cancers*  
Wojcicki, A. V., Kadapakkam, M., Frymoyer, A., Lacayo, N., Chae, H., Sakamoto, K. M.  
2020; 12 (2)
- **EPIGENETIC TARGETING OF TERT-ASSOCIATED GENE EXPRESSION SIGNATURE IN HUMAN NEUROBLASTOMA WITH TERT OVEREXPRESSION.** *Cancer research*  
Huang, M. n., Zeki, J. n., Sumarsono, N. n., Coles, G. L., Taylor, J. S., Danzer, E. n., Bruzoni, M. n., Hazard, F. K., Lacayo, N. J., Sakamoto, K. M., Dunn, J. C., Spunt, S. L., Chiu, et al  
2020
- **Genomic stability at the coding regions of the multidrug transporter gene ABCB1: insights into the development of alternative drug resistance mechanisms in human leukemia cells.** *Cancer drug resistance (Alhambra, Calif.)*  
Chen, K. G., Duran, G. E., Mogul, M. J., Wang, Y. C., Ross, K. L., Jaffrezou, J., Huff, L. M., Johnson, K. R., Fojo, T., Lacayo, N. J., Sikic, B. I.  
2020; 3: 959-979
- **Pediatric Acute Lymphoblastic Leukemia, Version 2.2020** *JOURNAL OF THE NATIONAL COMPREHENSIVE CANCER NETWORK*  
Brown, P., Inaba, H., Annesley, C., Beck, J., Colace, S., Dallas, M., DeSantes, K., Kelly, K., Kitko, C., Lacayo, N., Larrier, N., Maese, L., Mahadeo, et al  
2020; 18 (1): 81-112
- **Engineered type 1 regulatory T cells designed for clinical use kill primary pediatric acute myeloid leukemia cells** *Haematologica*  
Cieniewicz, B., Uyeda, M. J., Chen, P. P., Sayitoglu, E. C., Liu, J. M., Andolfi, G., Greenthal, K., Bertaina, A., Gregori, S., Bacchetta, R., Lacayo, N. J., Cepika, A., Roncarolo, et al  
2020
- **RSK inhibitor BI-D1870 inhibits acute myeloid leukemia cell proliferation by targeting mitotic exit.** *Oncotarget*  
Chae, H. D., Dutta, R. n., Tiu, B. n., Hoff, F. W., Accordi, B. n., Serafin, V. n., Youn, M. n., Huang, M. n., Sumarsono, N. n., Davis, K. L., Lacayo, N. J., Pigazzi, M. n., Horton, et al  
2020; 11 (25): 2387-2403
- **Establishing a Novel in Vitro Informed Precision Clinical Trial Pathway for Refractory Pediatric Leukemia**  
Zhang, C., Sharma, R., Satbir, T., Cheney, A., Vaske, O., Sanders, L., Boklan, J., Lewis, V. A., Anderson, R., Kovalchuk, O., Lacayo, N. J., Narendran, A., Bielamowicz, et al  
AMER SOC HEMATOLOGY.2019
- **Safety and Efficacy of Venetoclax in Combination with Navitoclax in Adult and Pediatric Relapsed/Refractory Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma**  
Lacayo, N. J., Pullarkat, V. A., Stock, W., Jabbour, E., Bajel, A., Rubnitz, J., Leonard, J., Mullighan, C. G., Khaw, S., Vear, S. I., Opferman, J. T., Salem, A., Schmidt, et al  
AMER SOC HEMATOLOGY.2019
- **Venetoclax in Combination with High-Dose Chemotherapy Is Active and Well-Tolerated in Children with Relapsed or Refractory Acute Myeloid Leukemia**  
Karol, S. E., Alexander, T., Budhraj, A., Pounds, S., Canavera, K. E., Wang, L., Wolf, J., Klco, J. M., Salem, A., Palenski, T., Lacayo, N. J., Pui, C., Opferman, et al  
AMER SOC HEMATOLOGY.2019

- **Comparative Tumor RNA Sequencing Analysis for Difficult-to-Treat Pediatric and Young Adult Patients With Cancer.** *JAMA network open*  
Vaske, O. M., Bjork, I., Salama, S. R., Beale, H., Tayi Shah, A., Sanders, L., Pfeil, J., Lam, D. L., Learned, K., Durbin, A., Kephart, E. T., Currie, R., Newton, et al  
2019; 2 (10): e1913968
- **Combination BCL-2 Inhibitor Therapy with Venetoclax and Navitoclax in Patients with Relapsed/Refractory Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma**  
Jabbour, E., Mullighan, C. G., Pullarkat, V. A., Lacayo, N. J., Bajel, A., Rubnitz, J., Leonard, J., Khaw, S., Vear, S. I., Alexander, T., Norris, R., Salem, A., Schmidt, et al  
CIG MEDIA GROUP, LP.2019: S184–S185
- **Integrative analysis of whole-genome and RNA sequencing in high-risk pediatric malignancies**  
Breese, M. R., Shah, A. T., Lee, A. G., Tanasa, B., Leung, S. G., Spillinger, A., Liu, H., Behroozfard, I., Phuong Dinh, Hazard, F. K., Rangaswami, A., Spunt, S. L., Lacayo, N. J., et al  
AMER ASSOC CANCER RESEARCH.2019
- **Clofarabine Can Replace Anthracyclines and Etoposide in Remission Induction Therapy for Childhood Acute Myeloid Leukemia: The AML08 Multicenter, Randomized Phase III Trial.** *Journal of clinical oncology : official journal of the American Society of Clinical Oncology*  
Rubnitz, J. E., Lacayo, N. J., Inaba, H., Heym, K., Ribeiro, R. C., Taub, J., McNeer, J., Degar, B., Schiff, D., Yeoh, A. E., Coustan-Smith, E., Wang, L., Triplett, et al  
2019: JCO1900327
- **Safety and activity of venetoclax in combination with high-dose cytarabine in children with relapsed or refractory acute myeloid leukemia.**  
Karol, S. E., Alexander, T., Das Gupta, S., Pounds, S. B., Canavera, K., Klco, J. M., Lacayo, N., Pui, C., Opferman, J. T., Rubnitz, J. E.  
AMER SOC CLINICAL ONCOLOGY.2019
- **A phase II clinical trial of adoptive transfer of haploidentical natural killer cells for consolidation therapy of pediatric acute myeloid leukemia.** *Journal for immunotherapy of cancer*  
Nguyen, R., Wu, H., Pounds, S., Inaba, H., Ribeiro, R. C., Cullins, D., Rooney, B., Bell, T., Lacayo, N. J., Heym, K., Degar, B., Schiff, D., Janssen, et al  
2019; 7 (1): 81
- **Comparative RNA-seq analysis aids in diagnosis of a rare pediatric tumor.** *Cold Spring Harbor molecular case studies*  
Sanders, L. M., Rangaswami, A. n., Bjork, I. n., Lam, D. L., Beale, H. C., Kephart, E. T., Durbin, A. n., Learned, K. n., Currie, R. n., Lyle, A. G., Pfeil, J. n., Shah, A. T., Lee, et al  
2019; 5 (5)
- **Tracking Cell Transplants in Femoral Osteonecrosis with Magnetic Resonance Imaging: A Proof-of-Concept Study in Patients** *CLINICAL CANCER RESEARCH*  
Theruvath, A. J., Nejadnik, H., Muehe, A. M., Gassert, F., Lacayo, N. J., Goodman, S. B., Daldrup-Link, H. E.  
2018; 24 (24): 6223–29
- **Comparison of the Transcriptomic Signature of Pediatric Vs. Adult CML and Normal Bone Marrow Stem Cells**  
Chae, H., Murphy, L. C., Donato, M., Lee, A. G., Sweet-Cordero, E., Abidi, P., Bittencourt, H., Lacayo, N. J., Dahl, G., Aftandilian, C., Davis, K. L., Huang, M., Sumarsono, et al  
AMER SOC HEMATOLOGY.2018
- **Venetoclax and Navitoclax in Patients with Relapsed or Refractory Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma**  
Alexander, T., Lacayo, N. J., Pullarkat, V. A., Jabbour, E. J., Khaw, S., Mullighan, C. G., Bajel, A., Leonard, J., Norris, R., Rubnitz, J., Vear, S. I., Schmidt, M., Tong, et al  
AMER SOC HEMATOLOGY.2018
- **Tracking Cell Transplants in Femoral Osteonecrosis with Magnetic Resonance Imaging: A Proof of Concept Study in Patients.** *Clinical cancer research : an official journal of the American Association for Cancer Research*  
Theruvath, A. J., Nejadnik, H., Muehe, A. M., Gassert, F., Lacayo, N. J., Goodman, S. B., Daldrup-Link, H. E.  
2018
- **Safety and Efficacy of the BCL Inhibitors Venetoclax and Navitoclax in Combination with Chemotherapy in Patients with Relapsed/Refractory Acute Lymphoblastic Leukemia and Lymphoblastic Lymphoma**  
Hantel, A., Wynne, J., Lacayo, N., Khaw, S., Rubnitz, J., Mullighan, C., Schmidt, M., Zhou, Y., Ross, J. A., Rosenwinkel, L., Kim, S., Jabbour, E., Alexander, et al  
CIG MEDIA GROUP, LP.2018: S184–S185
- **Open-label, dose-escalation, phase I study of venetoclax in combination with navitoclax and chemotherapy in patients with relapsed acute lymphoblastic leukemia.**

Alexander, T., Khaw, S., Rubnitz, J. E., Vear, S. I., Lacayo, N., Schmidt, M., Tong, B., Rosenwinkel, L., Bensman, L., Verdugo, M., Kim, S., Jabbour, E., Stock, et al

AMER SOC CLINICAL ONCOLOGY.2018

- **Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse.** *Nature medicine*  
Good, Z., Sarno, J., Jager, A., Samusik, N., Aghaeepour, N., Simonds, E. F., White, L., Lacayo, N. J., Fantl, W. J., Fazio, G., Gaipa, G., Biondi, A., Tibshirani, et al  
2018; 24 (4): 474–83
- **Single-cell developmental classification of B cell precursor acute lymphoblastic leukemia at diagnosis reveals predictors of relapse** *NATURE MEDICINE*  
Good, Z., Sarno, J., Jager, A., Samusik, N., Aghaeepour, N., Simonds, E. F., White, L., Lacayo, N. J., Fantl, W. J., Fazio, G., Gaipa, G., Biondi, A., Tibshirani, et al  
2018; 24 (4): 474+
- **The Significance of Dim Cytoplasmic CD3 Expression in Acute Myeloid Leukemia: A Long-Term Retrospective Study Identifies an Association with Acute Promyelocytic Leukemia with FLT3-ITD Mutations**  
Kumar, J., Nagy, A., Lacayo, N., Gotlib, J., Zehnder, J. L., Ohgami, R.  
NATURE PUBLISHING GROUP.2018: 529
- **The Significance of Dim Cytoplasmic CD3 Expression in Acute Myeloid Leukemia: A Long-Term Retrospective Study Identifies an Association with Acute Promyelocytic Leukemia with FLT3-ITD Mutations**  
Kumar, J., Nagy, A., Lacayo, N., Gotlib, J., Zehnder, J. L., Ohgami, R.  
NATURE PUBLISHING GROUP.2018: 529
- **Nicosamide suppresses acute myeloid leukemia cell proliferation through inhibition of CREB-dependent signaling pathways** *ONCOTARGET*  
Chae, H., Cox, N., Dahl, G. V., Lacayo, N. J., Davis, K. L., Capolicchio, S., Smith, M., Sakamoto, K. M.  
2018; 9 (4): 4301–17
- **Improved outcomes for myeloid leukemia of Down syndrome: a report from the Children's Oncology Group AAML0431 trial.** *Blood*  
Taub, J. W., Berman, J. N., Hitzler, J. K., Sorrell, A. D., Lacayo, N. J., Mast, K., Head, D., Raimondi, S., Hirsch, B., Ge, Y., Gerbing, R. B., Wang, Y., Alonzo, et al  
2017
- **The Significance of CD56 Expression and the RAM Immunophenotype, a Recurrent Immunophenotype Seen in Children, in Adult Acute Myeloid Leukemia**  
Lazzareschi, D., Cherry, A., Zehnder, J., Gotlib, J., Arber, D. A., Lacayo, N., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 358A–359A
- **The Significance of Morphologic Dysplasia in 432 Cases of Acute Lymphoblastic Leukemia and Acute Leukemia of Ambiguous Lineage: Correlation with Cytogenetic, Immunophenotypic, and Molecular Findings**  
Segal, J., Dahl, G., Lacayo, N., Gotlib, J., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 376A
- **A Detailed Multi parameter Flow Cytometry Study of 365 Cases of B-Lymphoblastic Leukemia with Subtyping According to the 2016 WHO: A Single Institutional Study**  
Segal, J., Lacayo, N., Gotlib, J., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 376A
- **Detailed Multiparameter Flow Cytometry Study of 365 Cases of B-Lymphoblastic Leukemia with Subtyping According to the 2016 WHO: A Single Institutional Study**  
Segal, J., Lacayo, N., Gotlib, J., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 376A
- **The Significance of Morphologic Dysplasia in 432 Cases of Acute Lymphoblastic Leukemia and Acute Leukemia of Ambiguous Lineage: Correlation with Cytogenetic, Immunophenotypic, and Molecular Findings**  
Segal, J., Dahl, G., Lacayo, N., Gotlib, J., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 376A
- **The Significance of CD56 Expression and the RAM Immunophenotype, a Recurrent Immunophenotype Seen in Children, in Adult Acute Myeloid Leukemia**  
Lazzareschi, D., Cherry, A., Zehnder, J., Gotlib, J., Arber, D. A., Lacayo, N., Ohgami, R.  
NATURE PUBLISHING GROUP.2017: 358A–359A
- **Phase I Study of Selinexor, a Selective Inhibitor of Nuclear Export, in Combination With Fludarabine and Cytarabine, in Pediatric Relapsed or Refractory Acute Leukemia** *JOURNAL OF CLINICAL ONCOLOGY*

- Alexander, T. B., Lacayo, N. J., Choi, J. K., Ribeiro, R. C., Pui, C., Rubnitz, J. E.  
2016; 34 (34): 4094-?
- **Small molecule inhibition of cAMP response element binding protein in human acute myeloid leukemia cells.** *Leukemia*  
Mitton, B., Chae, H., Hsu, K., Dutta, R., Aldana-Masangkay, G., FERRARI, R., Davis, K., Tiu, B. C., Kaul, A., Lacayo, N., Dahl, G., Xie, F., Li, et al  
2016
  - **Replication factor C3 is a CREB target gene that regulates cell cycle progression through the modulation of chromatin loading of PCNA** *LEUKEMIA*  
Chae, H., Mitton, B., Lacayo, N. J., Sakamoto, K. M.  
2015; 29 (6): 1379-1389
  - **Improvement in Treatment Outcome and Identification of a New Prognostic Parameter in Down Syndrome Acute Myeloid Leukemia (DS-AML): Results of the Children's Oncology Group (COG) Phase III AAML0431 Trial**  
Taub, J. W., Berman, J. N., Hitzler, J. K., Sorrell, A. D., Lacayo, N. J., Mast, K., Head, D. R., Raimondi, S. C., Hirsch, B. A., Gerbing, R. B., Alonzo, T. A., Campana, D., Coustan-Smith, et al  
AMER SOC HEMATOLOGY.2014
  - **Altered resting state functional connectivity in young survivors of acute lymphoblastic leukemia.** *Pediatric blood & cancer*  
Kesler, S. R., Gugel, M., Pritchard-Berman, M., Lee, C., Kutner, E., Hosseini, S. M., Dahl, G., Lacayo, N.  
2014; 61 (7): 1295-1299
  - **Development and validation of a single-cell network profiling assay-based classifier to predict response to induction therapy in paediatric patients with de novo acute myeloid leukaemia: a report from the Children's Oncology Group** *BRITISH JOURNAL OF HAEMATOLOGY*  
Lacayo, N. J., Alonzo, T. A., Gayko, U., Rosen, D. B., Westfall, M., Purvis, N., Putta, S., Louie, B., Hackett, J., Cohen, A. C., Cesano, A., Gerbing, R., Ravindranath, et al  
2013; 162 (2): 250-262
  - **Prognostic features in acute megakaryoblastic leukemia in children without Down syndrome: a report from the AML02 multicenter trial and the Children's Oncology Group Study POG 9421** *LEUKEMIA*  
O'Brien, M. M., Cao, X., Pounds, S., Dahl, G. V., Raimondi, S. C., Lacayo, N. J., Taub, J., Chang, M., Weinstein, H. J., Ravindranath, Y., Inaba, H., Campana, D., Pui, et al  
2013; 27 (3): 731-734
  - **COMPARISON OF HIGH-THROUGHPUT SEQUENCING AND FLOW CYTOMETRY FOR MEASURING MINIMAL RESIDUAL DISEASE IN PEDIATRIC ACUTE LYMPHOBLASTIC LEUKEMIA: A CHILDREN'S ONCOLOGY GROUP COHORT**  
Gawad, C., Borowitz, M., Dahl, G., Devidas, M., Faham, M., Moorhead, M., Wood, B., Zheng, J., Loh, M., Lacayo, N.  
SPRINGER.2013: S23-S24
  - **AKT Signaling as a Novel Factor Associated with In Vitro Resistance of Human AML to Gemtuzumab Ozogamicin** *PLOS ONE*  
Rosen, D. B., Harrington, K. H., Cordeiro, J. A., Leung, L. Y., Putta, S., Lacayo, N., Laszlo, G. S., Gudgeon, C. J., Hogge, D. E., Hawtin, R. E., Cesano, A., Walter, R. B.  
2013; 8 (1)
  - **Massive evolution of the immunoglobulin heavy chain locus in children with B precursor acute lymphoblastic leukemia** *BLOOD*  
Gawad, C., Pepin, F., Carlton, V. E., Klinger, M., Logan, A. C., Miklos, D. B., Faham, M., Dahl, G., Lacayo, N.  
2012; 120 (22): 4407-4417
  - **Comparison of High-Throughput Sequencing and Flow Cytometry for Measuring Minimal Residual Disease in Pediatric Acute Lymphoblastic Leukemia: A Children's Oncology Group Cohort** *54th Annual Meeting and Exposition of the American-Society-of-Hematology (ASH)*  
Gawad, C., Borowitz, M. J., Dahl, G. V., Devidas, M., Faham, M., Moorhead, M., Wood, B. L., Zheng, J., Loh, M. L., Lacayo, N. J.  
AMER SOC HEMATOLOGY.2012
  - **Assessing signaling pathways associated with in vitro resistance to cytotoxic agents in AML** *LEUKEMIA RESEARCH*  
Rosen, D. B., Cordeiro, J. A., Cohen, A., Lacayo, N., Hogge, D., Hawtin, R. E., Cesano, A.  
2012; 36 (7): 900-904
  - **Circular RNAs Are the Predominant Transcript Isoform from Hundreds of Human Genes in Diverse Cell Types** *PLOS ONE*  
Salzman, J., Gawad, C., Wang, P. L., Lacayo, N., Brown, P. O.  
2012; 7 (2)

- **Next-Generation Sequencing of Immunoglobulin Heavy Chain Variable Region in Diagnostic Samples of Pediatric Acute Lymphoblastic Leukemia Identifies Hundreds of Clonal Subpopulations with Multiple Immunophenotypes** *53rd Annual Meeting and Exposition of the American Society of Hematology (ASH)*  
Gawad, C., Faham, M., Willis, T., Moorhead, M., Carlton, V., Zheng, J., Klinger, M., Dahl, G. V., Lacayo, N. J.  
AMER SOC HEMATOLOGY.2011: 624-24
- **Dorsolateral Midbrain MRI Abnormalities and Ocular Motor Deficits Following Cytarabine-Based Chemotherapy for Acute Myelogenous Leukemia** *JOURNAL OF NEURO-OPHTHALMOLOGY*  
Doan, T., Lacayo, N., Fisher, P. G., Liao, Y. J.  
2011; 31 (1): 52-53
- **A pilot study of an online cognitive rehabilitation program for executive function skills in children with cancer-related brain injury** *BRAIN INJURY*  
Kesler, S. R., Lacayo, N. J., Jo, B.  
2011; 25 (1): 101-112
- **Single Cell Network Profiling (SCNP) Signatures Predict Response to Induction Therapy and Relapse Risk In Pediatric Patients with Acute Myeloid Leukemia: Children's Oncology Group (COG) Study POG-9421**  
Lacayo, N. J., Cohen, A., Westfall, M., Lackey, A., Xin, X., Gayko, U., Putta, S., Meshinch, S., Raimondi, S. C., Alonzo, T. A., Arceci, R. J., Ravindranath, Y., Dahl, et al  
AMER SOC HEMATOLOGY.2010: 420-21
- **Minimal residual disease-directed therapy for childhood acute myeloid leukaemia: results of the AML02 multicentre trial** *LANCET ONCOLOGY*  
Rubnitz, J. E., Inaba, H., Dahl, G., Ribeiro, R. C., Bowman, W. P., Taub, J., Pounds, S., Razzouk, B. I., Lacayo, N. J., Cao, X., Meshinchi, S., Degar, B., Airewele, et al  
2010; 11 (6): 543-552
- **Phase I Study of Valspodar (PSC-833) With Mitoxantrone and Etoposide in Refractory and Relapsed Pediatric Acute Leukemia: A Report From the Children's Oncology Group** *PEDIATRIC BLOOD & CANCER*  
O'Brien, M. M., Lacayo, N. J., Lum, B. L., Kshirsagar, S., Buck, S., Ravindranath, Y., Bernstein, M., Weinstein, H., Chang, M. N., Arceci, R. J., Sikic, B. I., Dahl, G. V.  
2010; 54 (5): 694-702
- **Prevalence and prognostic significance of KIT mutations in pediatric patients with core binding factor AML enrolled on serial pediatric cooperative trials for de novo AML** *BLOOD*  
Pollard, J. A., Alonzo, T. A., Gerbing, R. B., Ho, P. A., Zeng, R., Ravindranath, Y., Dahl, G., Lacayo, N. J., Becton, D., Chang, M., Weinstein, H. J., Hirsch, B., Raimondi, et al  
2010; 115 (12): 2372-2379
- **WT1 Expression at Diagnosis Does Not Predict Survival in Pediatric AML: A Report From the Children's Oncology Group** *PEDIATRIC BLOOD & CANCER*  
Noronha, S. A., Farrar, J. E., Alonzo, T. A., Gerbing, R. B., Lacayo, N. J., Dahl, G. V., Ravindranath, Y., Arceci, R. J., Loeb, D. M.  
2009; 53 (6): 1136-1139
- **Speeding the Flow Toward Personalized Therapy in Childhood Acute Leukemia** *PEDIATRIC BLOOD & CANCER*  
Simonds, E. F., Davis, K. L., Lacayo, N. J.  
2009; 53 (4): 525-526
- **Molecular inversion probes reveal patterns of 9p21 deletion and copy number aberrations in childhood leukemia** *CANCER GENETICS AND CYTOGENETICS*  
Schiffman, J. D., Wang, Y., McPherson, L. A., Welch, K., Zhang, N., Davis, R., Lacayo, N. J., Dahl, G. V., Faham, M., Ford, J. M., Ji, H. P.  
2009; 193 (1): 9-18
- **Genomics of childhood leukemias: The virtue of complexity** *JOURNAL OF CLINICAL ONCOLOGY*  
Sikic, B. I., Tibshirani, R., Lacayo, N. J.  
2008; 26 (27): 4367-4368
- **Tissue microarrays from bone marrow aspirates for high-throughput assessment of immunohistologic markers in pediatric acute leukemia** *PEDIATRIC AND DEVELOPMENTAL PATHOLOGY*  
Hazard, F. K., Zhao, S., Schiffman, J. D., Lacayo, N. J., Dahl, G. V., Natkunam, Y.  
2008; 11 (4): 283-290

- **Acute leukemia in children** *DM DISEASE-A-MONTH*  
O'Brien, M. M., Lacayo, N. J.  
2008; 54 (4): 202-225
- **Molecular Inversion Probes (MIPs) identify novel areas of allelic imbalance in childhood leukemia**  
Schiffman, J. D., Welch, K., Davis, R., Lacayo, N. J., Dahl, G. V., Wang, Y., Faham, M., Ford, J. M., Ji, H. P.  
AMER SOC HEMATOLOGY.2007: 431A
- **The incidence and clinical significance of nucleophosmin mutations in childhood AML** *BLOOD*  
Brown, P., McIntyre, E., Rau, R., Meshinchi, S., Lacayo, N., Dahl, G., Alonzo, T. A., Chang, M., Arceci, R. J., Small, D.  
2007; 110 (3): 979-985
- **Differential gene expression patterns and interaction networks in BCR-ABL-positive and -negative adult acute lymphoblastic leukemias** *JOURNAL OF CLINICAL ONCOLOGY*  
Juric, D., Lacayo, N. J., Ramsey, M. C., Racevskis, J., Wiernik, P. H., Rowe, J. M., Goldstone, A. H., O'Dwyer, P. J., Paietta, E., Sikic, B. I.  
2007; 25 (11): 1341-1349
- **Gene expression profiling predicts outcome in de novo acute myeloid leukemia (AML) with normal karyotype: Results of children's oncology group (COG) study POG #9421.** *48th Annual Meeting of the American-Society-of-Hematology*  
Lacayo, N. J., O'Brien, M., Jain, S., Meshinchi, S., Yu, R., Juric, D., Chang, M. N., Tebshirani, R., Ravindranath, Y., Weinstein, H. J., Sikic, B. I., Van Houten Dahl, G.  
AMER SOC HEMATOLOGY.2006: 542A-542A
- **Incidence and clinical significance of nucleophosmin mutations in childhood AML: A Childrens Oncology Group study.**  
Brown, P., McIntyre, E., Rau, R., Alonzo, T. A., Gerbing, R., Meshinchi, S., Lacayo, N., Chang, M., Arceci, R., Small, D.  
AMER SOC HEMATOLOGY.2006: 69A-70A
- **Novel allele quantification method to classify childhood leukemia.**  
Schiffman, J. D., Welch, K. M., Davis, R., Van Houten Dahl, G., Lacayo, N. J., Ford, J. M.  
AMER SOC HEMATOLOGY.2006: 643A-644A
- **Differential gene expression patterns and interaction networks in BCR/ABL positive and negative adult acute lymphoblastic leukemias.** *48th Annual Meeting of the American-Society-of-Hematology*  
Juric, D., Lacayo, N. J., Ramsey, M. C., Racevskis, J., Wiernik, P. H., Rowe, J. M., Goldstone, A. H., O'Dwyer, P. J., Paietta, E., Sikic, B. I.  
AMER SOC HEMATOLOGY.2006: 520A-520A
- **CpG island methylator phenotype and childhood leukemia** *CLINICAL CANCER RESEARCH*  
Lacayo, N. J., Di Martino, J. F., Wei, M. C., Dahl, G. V.  
2006; 12 (16): 4787-4789
- **Low or absent SPARC expression in acute myeloid leukemia with MLL rearrangements is associated with sensitivity to growth inhibition by exogenous SPARC protein** *LEUKEMIA*  
DiMartino, J. F., Lacayo, N. J., Varadi, M., Li, L., Saraiya, C., Ravindranath, Y., Yu, R., Sikic, B., Raimondi, S. C., Dahl, G.  
2006; 20 (3): 426-432
- **Randomized use of cyclosporin A (CsA) to modulate P-glycoprotein in children with AML in remission: Pediatric Oncology Group Study 9421** *BLOOD*  
Becton, D., Dahl, G. V., Ravindranath, Y., Chang, M. N., Behm, F. G., Raimondi, S. C., Head, D. R., Stine, K. C., Lacayo, N. J., Sikic, B. I., Arceci, R. J., Weinstein, H.  
2006; 107 (4): 1315-1324
- **Gene expression profiling and FLT3 status correlate with outcome in de novo acute myeloid leukemia (AML) with normal karyotype: Results of children's oncology group (COG) study POG #9421.** *47th Annual Meeting of the American-Society-of-Hematology*  
Lacayo, N., Meshinchi, S., Raimondi, S., Saraiya, C., O'Brien, M., Yu, R., Juric, D., Chang, M., Willman, C., Tibshirani, R., Ravindranath, Y., Sikic, B., Weinstein, et al  
AMER SOC HEMATOLOGY.2005: 667A-667A
- **Improved remission induction rate of childhood AML: Preliminary results of the AML02 trial.**  
Rubnitz, J., Razzouk, B., Bowman, P., Dahl, G., Lacayo, N., Taub, J., Ravindranath, Y., Meshinchi, S., Airewele, G., Lensing, S., Pounds, S., Ribeiro, R., Pui, et al  
AMER SOC HEMATOLOGY.2005: 84A
- **Array CGH discovers novel genomic signatures in de novo acute myeloid leukemia (AML): Results of children's oncology group (COG) study POG #9421**

- Kuo, D. J., Lacayo, N. J., Hoang, D., Juric, D., Raimondi, S. C., Chen, D., Chang, M. N., Ravindranath, Y., Weinstein, H. J., Sikic, B. I., Dahl, G. V.  
AMER SOC HEMATOLOGY.2005: 777A
- **Osteonectin/SPARC is epigenetically silenced in AML with MLL gene rearrangements and selectively inhibits the growth of MLL rearranged cell lines** *46th Annual Meeting of the American-Society-of-Hematology*  
DiMartino, J. F., Lacayo, N. J., Varadi, M., Ravindranath, Y., Yu, R., Sikic, B., Raimondi, S. C., Dahl, G. V.  
AMER SOC HEMATOLOGY.2004: 314A-314A
  - **FLT3 mutations determine the clinical outcome in children with de novo acute myelogenous leukemia (AML) and normal karyotype: Pediatric Oncology Group (POG) study # 9421.**  
Lacayo, N. J., Meshinchi, S., Raimondi, S. C., Kuo, D. J., Yu, R., Chang, M. N., Willman, C. L., Tibshirani, R., Ravindranath, Y., Sikic, B. I., Weinstein, H., Dahl, G. V.  
AMER SOC HEMATOLOGY.2004: 165A
  - **Gene expression profiling identifies genes associated with in vitro resistance to daunorubicin and cytarabine in children with de novo acute myelogenous leukemia (AML) from the Pediatric Oncology Group (POG) study # 9421**  
Kuo, D. J., Lacayo, N. J., Buck, S., Yu, R., Saraiya, C., Douglas, L., Weinstein, H., Chang, M., Willman, C. L., Tibshirani, R., Dahl, G. V., Sikic, B., Ravindranath, et al  
AMER SOC HEMATOLOGY.2004: 320A
  - **Gene expression profiles at diagnosis in de novo childhood AML patients identify FLT3 mutations with good clinical outcomes** *BLOOD*  
Lacayo, N. J., Meshinchi, S., Kinnunen, P., Yu, R., Wang, Y., Stuber, C. M., Douglas, L., Wahab, R., Becton, D. L., Weinstein, H., Chang, M. N., Willman, C. L., Radich, et al  
2004; 104 (9): 2646-2654
  - **Gene expression profiling (GEP) in de novo pediatric acute myeloid leukemia (AML) patients reveals a robust expression signature that correlates with inv(16) and t(16;16).**  
Lacayo, N., Kinnunen, P., Raimondi, S. C., Yu, R., Wahab, R., Stuber, C., Douglas, L., Chang, M., Willman, C. L., Ravindranath, Y., Weinstein, H., Becton, D., Behm, et al  
AMER SOC HEMATOLOGY.2003: 365A
  - **Modulation of resistance to idarubicin by the cyclosporin PSC 833 (valspodar) in multidrug-resistant cells.** *Journal of experimental therapeutics & oncology*  
Lacayo, N. J., Duran, G. E., Sikic, B. I.  
2003; 3 (3): 127-135
  - **Preferential expression of a mutant allele of the amplified MDR1 (ABCB1) gene in drug-resistant variants of a human sarcoma** *GENES CHROMOSOMES & CANCER*  
Chen, G. K., Lacayo, N. J., Duran, G. E., Wang, Y., Bangs, C. D., Rea, S., Kovacs, M., Cherry, A. M., Brown, J. M., Sikic, B. I.  
2002; 34 (4): 372-383
  - **Pharmacokinetic interactions of cyclosporine with etoposide and mitoxantrone in children with acute myeloid leukemia** *LEUKEMIA*  
Lacayo, N. J., Lum, B. L., Becton, D. L., Weinstein, H., Ravindranath, Y., Chang, M. N., Bomgaars, L., Lauer, S. J., Sikic, B. I., Dahl, G. V.  
2002; 16 (5): 920-927
  - **Mitoxantrone, etoposide, and cyclosporine therapy in pediatric patients with recurrent or refractory acute myeloid leukemia** *JOURNAL OF CLINICAL ONCOLOGY*  
Dahl, G. V., Lacayo, N. J., Brophy, N., Dunussi-Joannopoulos, K., Weinstein, H. J., Chang, M. R., Sikic, B. I., Arceci, R. J.  
2000; 18 (9): 1867-1875
  - **Loss of cyclosporin and azidopine binding are associated with altered ATPase activity by a mutant p-glycoprotein with deleted Phe(335)** *MOLECULAR PHARMACOLOGY*  
Chen, G. K., Lacayo, N. J., Duran, G. E., Cohen, D., Sikic, B. I.  
2000; 57 (4): 769-777
  - **Multidrug-resistant human sarcoma cells with a mutant P-glycoprotein, altered phenotype, and resistance to cyclosporins** *JOURNAL OF BIOLOGICAL CHEMISTRY*  
Chen, G., Duran, G. E., Steger, K. A., Lacayo, N. J., Jaffrezou, J. P., Dumontet, C., Sikic, B. I.  
1997; 272 (9): 5974-5982