## Division Details

### RESEARCH AND TRAINING DETAILS

<table>
<thead>
<tr>
<th>Category</th>
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<tr>
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<tr>
<td>Number of Joint Appointment Faculty</td>
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<td>Number of Research Fellows</td>
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<td>Peer Reviewed Publications</td>
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### CLINICAL ACTIVITIES AND TRAINING

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<tr>
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### Significant Publications


  The discipline of Adolescent and Young Adult (AYA) Oncology addresses compelling medical and psychosocial needs of AYA patients across the spectrum of cancer survivorship. To be successful, extraordinary collaboration involving multiple scientific disciplines and specialties is required. While AYA Oncology is international in scope, recent AYA-focused studies conducted in the Children's Oncology Group (COG) have documented survival disparities, toxicity differences, and biological insights that provide the basis for new COG trials and initiatives for this population. This experience will be useful in leveraging the new United States National Cancer Institute Clinical Trials Network to transform AYA Oncology research.


  AMP activated protein kinase (AMPK) plays a key role in the regulatory network responsible for maintaining systemic energy homeostasis during exercise or nutrient deprivation. To understand the function of the regulatory β2 subunit of AMPK in systemic energy metabolism, we characterized β2 subunit-deficient mice. Using these mutant mice, we demonstrated that the β2 subunit plays an important role in regulating glucose, glycogen, and lipid metabolism during metabolic stress. The β2 mutant animals failed to maintain euglycemia and muscle ATP levels during fasting. In addition, β2-deficient animals showed classic symptoms of metabolic syndrome, including hyperglycemia, glucose intolerance, and insulin resistance when maintained on a high-fat
diet (HFD), and were unable to maintain muscle ATP levels during exercise. Cell surface-associated glucose transporter levels were reduced in skeletal muscle from β2 mutant animals on an HFD. In addition, they displayed poor exercise performance and impaired muscle glycogen metabolism. These mutant mice had decreased activation of AMPK and deficits in PGC1α-mediated transcription in skeletal muscle. Our results highlight specific roles of AMPK complexes containing the β2 subunit and suggest the potential utility of AMPK isoform-specific pharmacological modulators for treatment of metabolic, cardiac, and neurological disorders.


Low-dose decitabine has encouraging activity and tolerability in adults with acute myeloid leukaemia (AML), but paediatric experience is lacking. We report our retrospective experience with decitabine in eight children and young adults (median age 4 years) with refractory/reapsed AML, who had failed multiple regimens or were not candidates for standard retrieval regimens due to prior toxicities. Three of eight patients (38%) had complete response (CR; 1 each of CR, CR with incomplete platelet recovery and CR with incomplete count recovery). Best responses were observed after a median of 2.5 cycles (range 1-4 cycles). Four patients received subsequent allogeneic stem cell transplant, and two remain in long-term CR.


Glioblastoma (GBM) is a brain tumor that carries a dismal prognosis and displays considerable heterogeneity. We have recently identified recurrent H3F3A mutations affecting two critical amino acids (K27 and G34) of histone H3.3 in one-third of pediatric GBM. Here, we show that each H3F3A mutation defines an epigenetic subgroup of GBM with a distinct global methylation pattern, and that they are mutually exclusive with IDH1 mutations, which characterize a third mutation-defined subgroup. Three further epigenetic subgroups were enriched for hallmark genetic events of adult GBM and/or established transcriptomic signatures. We also demonstrate that the two H3F3A mutations give rise to GBMs in separate anatomic compartments, with differential regulation of transcription factors OLIG1, OLIG2, and FOXG1, possibly reflecting different cellular origins.


As acute myeloid leukemia (AML) xenograft models improve, the potential for using them to evaluate novel therapeutic strategies becomes more appealing. Currently, there is little information on using standard chemotherapy regimens in AML xenografts. Here we have characterized the immunodeficient mouse response to combined Ara-C (cytarabine) and doxorubicin treatment. We observed significant toxicity associated with doxorubicin that required optimization of the route of injection as well as the maximum-tolerated dose for immunodeficient strains. Mice treated with an optimized 5-day induction protocol showed transient weight loss, short-term reduction of peripheral blood cell and platelet counts, and slight anemia. Considerable cytotoxicity was observed in the bone marrow (BM), with primitive LSK cells having a significant survival advantage relative to more mature cells, consistent with the idea of chemotherapy targeting actively growing cells. Treated leukemic mice demonstrated reduced disease burden and increased survival, demonstrating efficacy. AML cells showed significantly increased sensitivity to doxorubicin-containing therapy compared with murine BM cells. Although early treatment could result in some cures, mice with significant leukemia grafts were not cured by using induction therapy alone. Overall, the data show that this model system is useful for the evaluation of novel
chemotherapies in combination with standard induction therapy.

Division Publications


25. Quarmyne MO, Gupta A, Adams DM. **Lymphangiosarcoma of the thorax and thoracic vertebrae in a**


Faculty, Staff, and Trainees

Faculty Members

John Perentesis, MD, FAAP, Professor

Leadership Deb Kleisinger Endowed Chair of Novel Cancer Treatments; Executive Co-Director, Cancer and Blood Diseases Institute; Director, Division of Oncology; Director, Leukemia/Lymphoma Program; Cincinnati Children's Principal Investigator, Children's Oncology Group (COG); Cincinnati Children's Principal
Investigator, National Cancer Institute Pediatric Phase I Consortium

Research Interests New anticancer drug development; molecular oncogenesis and pharmacogenetics in high risk leukemia, lymphoma and pediatric cancers

Michael Absalon, MD, PhD, Assistant Professor
Leadership Director, Medical Education Program; Associate Director, Leukemia/Lymphoma Program
Research Interests New therapeutics; relapsed leukemia and lymphoma, post-transplant lymphoproliferative disease, T-cell lymphoma

Denise M. Adams, MD, Professor
Leadership Marjory J. Johnson Chair Vascular Tumor Translational Research; Medical Director, Comprehensive Hemangiomas and Vascular Malformation Clinic; Director, Hematology/Oncology Fellowship Program
Research Interests Angiogenesis, endothelial cell proliferation, vascular anomalies, mTOR inhibition as a therapeutic approach to complex vascular anomalies

Karen Burns, MD, Assistant Professor
Leadership Clinical Director, Cancer Survivor Center
Research Interests Childhood cancer survival; fertility preservation and outcomes; adolescent and young adult outcomes and quality of life

Lionel Chow, MD, Assistant Professor
Leadership St. Baldrick's Foundation Scholar
Research Interests Molecular genetics of pediatric high-grade glioma, animal models of brain tumors, translational therapeutics for gliomas

Biplab Dasgupta, PhD, Assistant Professor
Research Interests Brain development, energy metabolism, brain cancer

Mariko DeWire, MD, Assistant Professor
Research Interests Developmental therapeutics in pediatric brain tumors

Rachid Drissi, MD, Assistant Professor
Research Interests Replicative senescence, telomere disruption signaling to DNA damage pathways

Maryam Fouladi, MD, FRCP, Professor
Leadership Marjory J. Johnson Chair of Brain Tumor Translational Research; Medical Director, Neuro-Oncology Program; Cincinnati Children’s Principal Investigator, Collaborative Ependymoma Research Network (CERN)
Research Interests Novel drug development for the treatment of children with recurrent or poor prognosis brain tumors

James I. Geller, MD, Associate Professor
Leadership Medical Director, Kidney and Liver Tumors Program; Co-Medical Director, Retinoblastoma Program
Research Interests Developmental therapeutics for pediatric solid tumors, especially liver and kidney tumors and retinoblastoma

Adrienne Hammill, MD, Assistant Professor
Research Interests New approaches to the assessment and treatment of hemangiomas and vascular
malformations

Trent Hummel, MD, Assistant Professor
Research Interests New therapeutics in neuro-oncology; diffuse intrinsic pontine glioma, neurofibromatosis type 1 and 2 related tumors, biomarker development

Beatrice Lampkin, MD, Professor Emerita
Research Interests Blood and bone marrow morphology and the significance thereof in relationship to patients' case histories

Benjamin Mizukawa, MD, Instructor
Research Interests Pediatric leukemia and lymphoma; role of small Rho GTPases in leukemogenesis and leukemic stem cell biology and their potential as therapeutic targets in acute myeloid leukemia

Rajaram Nagarajan, MD, Assistant Professor
Leadership Outpatient and Inpatient Clinical Director; Director of Cancer Control and Outcomes Research, Cancer Survivor Center
Research Interests Bone tumors; functional and quality of life outcomes following cancer therapy

Maureen O'Brien, MD, Assistant Professor
Leadership Associate Director, Leukemia/Lymphoma Program
Research Interests High-risk acute lymphoblastic leukemia; novel therapies for relapsed leukemia and lymphoma; complications of leukemia therapy

Christine Phillips, MD, Assistant Professor
Research Interests Developmental therapeutics for acute myeloid leukemia; pharmacogenomics of cytarabine and other chemotherapeutic agents

Lisa Privette, PhD, Instructor
Research Interests Molecular mechanisms of tumorigenesis and chemotherapeutic drug resistance in breast cancer, with a particular interest in breast cancer stem cells

Brian Turpin, DO, Instructor
Research Interests Developmental therapeutics in pediatric brain tumors

Brian D. Weiss, MD, Associate Professor
Leadership Associate Director for Safety and Compliance, Cancer and Blood Diseases Institute; Medical Director, Neuroblastoma Program; Cincinnati Children's Principal Investigator, New Approaches to Neuroblastoma Therapy Consortium (NANT)
Research Interests Targeted agents for neurofibromatosis type 1-related malignancies (including plexiform neurofibromas, optic pathway gliomas, and juvenile myelomonocytic leukemia); chemotherapy safety

Susanne Wells, PhD, Associate Professor
Leadership Director, Epithelial Carcinogenesis and Stem Cell Program
Research Interests Epithelial malignancies, human papillomavirus biology and new targets of the HPV E6/E7 oncogenes, the role of epithelial stem cells in carcinogenesis

Joint Appointment Faculty Members

Ahna Pai, PhD, Associate Professor (Adherence Psychology)
Saulius Sumanas, PhD, Assistant Professor (Developmental Biology)
Mary Sutton, MD, Associate Professor (Neurology)

Clinical Staff Members

Carina Braeutigam, MD
Vasudha Narayanaswamy, MD

Trainees

Andrew Bukowinski, MD, PGYIV, Children's Hospital of Pittsburg
Christopher Dandoy, MD, PGYVI, Miami Children's Hospital
Kathleen Dorris, MD, PGYVII, Children's Memorial Hospital, Northwestern University
Anne Hladik, MD, PGYV, Baylor College of Medicine, Houston
Dawn Pinchasik, MD, PGYVI, Children's Hospital of Pittsburgh
Ralph Salloum, MD, PGYVI, Detroit Medical Center/Wayne State University
Jennifer Williams, MD, PGYVI, T.C. Thompson Children's Hospital/University of Tennessee

Division Collaboration

Adolescent Medicine; Behavioral Medicine and Clinical Psychology; Biostatistics and Epidemiology; Human Genetics; Neurology; Physical Medicine and Rehabilitation » L. Ayensu-Coker, D. Drotar, M. Kim, S. Knapke, R. Hopkin, M. Sutton, and D. Pruitt

Scholar Training Program in Cancer Survivorship, funded by the Hyundai Hope on Wheels Foundation. (J. Perentesis, K. Burns, R. Nagarajan)


Behavioral Medicine and Clinical Psychology » D. Drotar and A. Pai

Adherence research; "Promoting Treatment Adherence in Adolescent Leukemia" (NIH).

Biomedical Informatics; Biostatistics and Epidemiology; Clinical Pharmacology; Pathology; Radiology » B. Aronow, M. Kim, A. Vinks, D. Witte, M. Gelfand, and A. Towbin

Scholar Training Program in Pediatric Oncology Developmental Therapeutics and Clinical Pharmacology, funded by the Hyundai Hope on Wheels Foundation. (J. Perentesis, M. Fouladi)

Biomedical Informatics; Human Genetics; Developmental and Behavioral Pediatrics; Biostatistics and Epidemiology » B. Aronow, T. Smolarek, D. Schonfeld, and M. Kim

Down syndrome leukemia research: etiology and risk factors, pharmacogenetics of therapy and outcomes. (J. Perentesis)

Bone Marrow Transplantation & Immune Deficiency » P. Mehta

Xenograft analysis of Fanconi Anemia patient cord blood CD34+ cells. (B. Mizukawa)

Center for Professional Excel Rsch & EBP » R. Pickler

Local and Systemic Responses and Epi-Genetic Influences on Preterm Birth among Hispanic Women. (R. Drissi)

Developmental Biology; Pain Management » Y. Yutaka and M. Jankowski
Myelination (B. DasGupta)

**Endocrinology** » S. Rose and M. Rutter
Endocrinology services for oncology patients; Children's Oncology Group and other clinical research activities.

**Experimental Hematology and Cancer Biology; Pathology; University of Cincinnati Department of Cancer and Cell Biology; University of Minnesota** » N. Ratner, M. Collins, G. Thomas, S. Kozma, and D. Largaespada
Cincinnati Center of Neurofibromatosis Research (P50). (J. Perentesis)

**Experimental Hematology and Cancer Biology** » Y. Zheng
Cdc42 inhibition for xenograft conditioning and mobilization. (B. Mizukawa)

**Experimental Hematology and Cancer Biology; Human Genetics** » R. Waclaw, Q. Pang, and R. Stottman
Brain Development. (B. DasGupta)

**Experimental Hematology and Cancer Biology; Bone Marrow Transplantation & Immune Deficiency; Human Genetics** » N. Ratner, K. Komurov, A. Kumar, and G. Grabowski
Cancer Metabolism. (B. DasGupta)

**Experimental Hematology and Cancer Biology** » D. Starczynowski
Cancer. (B. DasGupta)

**Experimental Hematology and Cancer Biology** » J. Cancelas
Provide technical services with flow cytometry and intellectual input on identifying cancer stem cells. (L. Privette-Vinnedge)

**Experimental Hematology and Cancer Biology** » K. Komurov
Facilitating cell culture and murine model experiments for his studies while assisting with bioinformatics and data mining for projects. (L. Privette-Vinnedge)

**Experimental Hematology and Cancer Biology** » H. Geiger
Breeding mice for stem cell studies. (L. Privette-Vinnedge)

**Gastroenterology, Hepatology and Nutrition; Radiology; Nephrology; Cardiology; Pathology** » N. Yazigi, A. Brody, J. Goebel, R. Spicer, K. Uzark, and D. Witte
Post-Transplant Lymphoproliferative Disease Working Group. (M. Absalon)

**Genetics** » T. Smolarek and L. Dyer
Molecular (FISH, SNP) characterization of TFE (translocation-type) Renal Cell Carcinoma. (J. Geller)

**Hemangioma & Vascular Malformation Clinic; Orthopaedic** » J. Sorger

**Human Genetics** » L. Bao and T. Smolarek
Genetic services for oncology patients; Children's Oncology Group clinical research activities.

**Human Genetics; Neurology; Clinical Pharmacology; Radiology; Neurosurgery; Ophthalmology; Orthopaedic Surgery; Physical Medicine and Rehabilitation; Pathology** » E. Schorry, R. Hopkin, A. Vinks, A. Towbin, S. Sharp, M. Gelfand, M. Sutton, M. Collins, D. Pruitt, C. West, A. Crawford, and K. Crone
Multidisciplinary clinical services for patients with neurofibromatosis; clinical research related to neurofibromatosis, including national clinical trial of mTOR inhibition to treat NF1-related plexiform neurofibromas. (B. Weiss, J. Perentesis, T. Hummel)

**Human Genetics** » N. Leslie
Pediatric Hereditary Cancer Predisposition Clinic (J. Geller).

**Infectious Diseases; Investigational Pharmacy; Radiology; Crusade Labs** B. Connelly, M. Cloughessy, D. Lagory, J. Racadio, A. Towbin, M. Brown, and J. Connor

Phase I trial of HSV1716. (J. Geller)

**Nephrology** S. Goldstein

Study ADVL1315 - Biomarkers of renal injury during anti-angiogenic therapy. (J. Geller)

**Nephrology** S. Goldstein

Urinary Biomarkers of Acute Kidney Injury in Children with Cancer receiving Nephrotoxic Chemotherapy. (M. O'Brien)

**Neurology; Ophthalmology; Radiology** D. Rose, C. West, and J. Leach

Visual pathway research for children with retinal or optic pathway tumors. (J. Geller)

**Neurology; Pathology; Radiology** T. Maugins, J. Yin, M. Gelfand, and S. Sharp

Neuroblastoma Program: (B. Weiss, R. Nagarajan)


**Neurosurgery** C. Stevenson

Culture and xenografts of pediatric brain tumors. (L. Chow)

**Neurosurgery; Pathology** C. Stevenson and L. Miles

Prognostic Role of Telomerase Expression in Pediatric High-Grade Gliomas.

Telomerase Activity and *hTERT* mRNA Expression Predict Shorter Progression-free and Overall Survival in Pediatric Medulloblastoma.

(R. Drissi, M. Fouladi, K. Dorris)

**Neurosurgery; Pathology** C. Stevenson and L. Miles

A Pilot Study of SAHA in combination with 13-cis-retinoic acid for high risk medulloblastoma/PNET following craniospinal irradiation therapy and high dose chemotherapy with stem cell rescue, A phase II study of SAHA in combination with 13-cis-retinoic acid in recurrent/ refractory medulloblastoma/PNET, ATRT, ependymoma, high grade glioma.

A Safety and Feasibility Study of Radiotherapy and Concurrent Imetelstat Followed by Maintenance Imetelstat in Patients with Newly Diagnosed with High Grade Gliomas and Diffuse Intrinsic Pontine Gliomas.

Pediatric Brain Tumor Repository at Cincinnati Children’s Hospital Medical Center: The primary goal of this study is to develop a pediatric brain tumor repository resulting in a long-term goal of improving our understanding in the biology of pediatric brain tumors. This will be achieved by two means: 1) conducting systematic autopsy studies on pediatric brain tumor patients who succumb to their illness and 2) by obtaining tumor and control tissue for future clinical/translational research.

(M. DeWire, R. Drissi, M. Fouladi)

**Obstetrics and Gynecology** L. Ayensu-Coker

Fertility Consultation Service for oncology patients. (K. Burns)

**Obstetrics and Gynecology; Christ Hospital** L. Ayensu-Coker and S. Lindheim

Cincinnati chapter of the Oncofertility Consortium.

**Ophthalmology; Radiology** J. Augsburger and T. Abruzzo
Locoregional therapy (intraarterial and intravitreal chemotherapy) for Retinoblastoma. (J. Geller)

**Pathology** » A. Gupta
Molecular characteristics of Angiosarcoma (L. Chow).

**Pathology** » L. Miles
ACNS0822: a randomized phase II/III study of suberoylanilide hydroxamic acid (SAHA) (IND# 71976) and local irradiation or temozolomide and local irradiation or arsenic trioxide and local irradiation followed by maintenance bevacizumab (IND# 7921) and irinotecan in children with newly diagnosed high-grade glioma. (M. Fouladi, J. Geller, R. Drissi)

**Pathology; Bone Marrow Transplantation & Immune Deficiency; Experimental Hematology and Cancer Biology; University of Cincinnati** » K. Wikenheiser-Brokamp, D. Witte, S. Ho, S. Davies, P. Mehta, N. Nassar, M. Bahassi, P. Stambbrook, K. Wilson, K. Casper, and Y. Patil
Studies in DEK in Hematopoietic stem cells. (S.Wells)

**Pathology** » L. Miles
Characterization of mouse glioma models. (L. Chow)

**Pathology; Radiology; Surgical Services** » M. Gelfand, S. Sharp, A. Towbin, J. Yin, and T. Maugins
Clinical services for neuroblastoma patients; clinical research related to neuroblastoma. (J. Perentesis, B. Weiss)

**Pathology** » D. Witte, M. Collins, J. Yin, J. Mo, R. McMasters, and L. Miles
Pathology services for oncology patients; Children's Oncology Group clinical research activities.

**Pathology** » D. Witte
Cincinnati Children's to develop an assay for High-grade patents eligibility. (R. Drissi)

**Physical Medicine and Rehabilitation** » D. Pruitt
Rehabilitation services for oncology patients; Children's Oncology Group and other clinical research activities.

**Radiology;** » M. Gelfand and A. Towbin
Nuclear medicine services for oncology patients; Children's Oncology Group clinical research activities.

**Radiology; General and Thoracic Surgery; Pathology** » A. Towbin, D. von Allmen, and K. Bove
Director: Multidisciplinary Solid Tumor Board - a weekly educational session pertaining to solid tumors, for all levels of care providers. (J. Geller)

**Radiology; Ophthalmology** » T. Abruzzo and J. Augsburger
Protocol Chair: CCHMC IARB1 – (IND# 111358) - A Pilot Study of Intra-Ophthalmic Artery Topotecan Infusion for the Treatment of Retinoblastoma. (J. Geller)

**Radiology; Surgery** » B. Cooley, C. Doumalin, J. Racadio, D. Podberesky, and D. vonAllmen
Advancement of High Frequency Ultrasound (HIFU) for pediatric oncology patients. (J. Geller)

**Radiology** » E. Crotty and N. Cost
Nephrometry for pediatric renal tumors. (J. Geller)

**Surgical Services** » R. Azizkhan and G. Tiao
Surgical services for oncology patients; Children's Oncology Group clinical research activities.

**Surgical Services; Gastroenterology; Hepatology and Nutrition; Developmental Biology; Radiology; Pathology** » J. Nathan, M. Alonso, F. Ryckman, G. Tiao, M. Leonis, J. Bucuvalas, K. Campbell, A. Towbin, K. Kukreja, K. Bove, A. Gupta, R. Sheridan, and M. Kim
Liver transplantation clinical services and clinical research activities for hepatoblastoma patients. (J. Geller)


Hemangioma and Vascular Malformation Center, clinical services and clinical research, including a clinical trial of rapamycin and sirolimus for complicated vascular anomalies, a vascular tumor registry, and a vascular anomaly tissue repository. (D. Adams, A. Hammill)

UC Cancer and Cell Biology » S. Waltz

Provide technical services with murine models of breast cancer, intellectual input, career mentoring. (L. Privette-Vinnedge)

UC Drug Discovery Center » R.Papoian


UC Environmental Health » S. Ho

Provide shared reagents and intellectual input regarding hormone studies, co-mentor and co-author. (L. Privette-Vinnedge)

UC Division of Hematology/Oncology » M. Czyzk-Krzeska

Autophagy in TFE (Translocation-type) RCC. (J. Geller)

UC College of Pharmacy » G. Weber

Providing reagents and samples for analysis. (L. Privette Vinnege)

UC College of Pharmacy » P. Desai

Preclinical testing of aromatase inhibitor in glioma. (L. Chow)

UC Division of Radiation Oncology » J. Breneman and R. Lavigne

Radiation oncology clinical services for oncology patients; Children's Oncology Group clinical research activities.

Grants, Contracts, and Industry Agreements

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CHHIPA, R

Identifying survival factors for Diffuse Intrinsic Pontine Glioma (DIPG) Stem Cells

Cancer Free Kids
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<td>CHOW, L</td>
<td>Micro-RNA Expression in Pediatric High-Grade Glioma</td>
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<td>The Children's Tumor Foundation</td>
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<td>DASGUPTA, B</td>
<td>Regulation of Forebrain Neurogenesis by the Energy Sensor AMP Kinase</td>
<td>National Institutes of Health</td>
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<td>07/01/12-06/30/17</td>
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<td>DORRIS, K</td>
<td>Molecular Epidemiology in Children's Environmental Health Training Program</td>
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<td>DRISSI, R</td>
<td>Telomerase as a Marker and Therapeutic Target for Pediatric High-Grade Glioma</td>
<td>Team Connor Childhood Cancer Foundation</td>
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<td>FOULADI, M</td>
<td>Children's Oncology Group Chair</td>
<td>National Institutes of Health(Children's Hospital of Philadelphia)</td>
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<td>The Pediatric Brain Tumor Consortium</td>
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<td>Establishment of an International Diffuse Intrinsic Pontine Glioma (DIPG) Registry</td>
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<td>The Cure Starts Now Foundation</td>
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<td>The Pediatric Brain Tumor Consortium - Per Patient</td>
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<td>GELLER, J</td>
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<td>Epigenetic and Clinical Impact of SMARCB1 Loss in Cancer</td>
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<td>National Institutes of Health (Children's Memorial Hospital)</td>
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<td>MOREIRA RIDSDAL,D</td>
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<td>The Role of CDC42 in MLL-AF9 Induced AML Xenograft Model</td>
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<td>American Society of Hematology</td>
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<td>O'BRIEN, M</td>
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<td>Molecular Targeting of Chemotherapy-Resistant Pediatric Acute Myeloid Leukemia</td>
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<td>Children's Oncology Group Chair - Millennium</td>
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<td>National Institutes of Health (Children's Hospital of Philadelphia)</td>
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<td>Children's Oncology Group Chair - Workload Intensity</td>
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<td>Children's Oncology Group Phase I / Pilot Consortium</td>
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<td>National Institutes of Health (National Childhood Cancer Founation)</td>
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<td>09/01/06-07/31/15</td>
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<td>COG Supplemental Reimbursement</td>
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<td>St. Baldrick's Foundation (Children's Hospital of Philadelphia)</td>
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<td>Pediatric Phase I - Pilot Consortium (per case)</td>
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Pediatric Phase I Scientific Leadership  
National Institutes of Health (Children's Hospital of Philadelphia)  
UM1 CA097452  
09/26/12-07/31/15  
$11,501

Children's Oncology Group Phase I / Pilot Consortium - per patient  
National Institutes of Health (Children's Hospital of Philadelphia)  
U01 CA097452  
09/01/06-07/31/12  
$125,705

PHILLIPS, C  
Genetic Model of Cytarabine Sensitivity in Children with AML  
American Association for Cancer Research  
07/01/12-06/30/14  
$50,000

PRIVETTE, L  
Cincinnati Interdisciplinary Women's Health Research Career Training Grant  
National Institutes of Health (University of Cincinnati)  
K12 HD 051953  
07/01/12-06/30/14  
$79,933  
Defining the Role of the DEK Oncogene in Breast Cancer Stem Cell Tumorigenicity Ad Pre-Clinical Testing of Therapeutic DEK Targeting Strategies  
Ride Cincinnati Foundation  
RCF  
04/01/13-03/31/14  
$40,000

ROMICK-ROSENDALE, L  
Environmental Carcinogenesis and Mutagenesis  
National Institutes of Health (University of Cincinnati)  
T32 ES 007250  
09/01/12-06/30/13  
$41,170

WEISS, B  
Phase I Trial of the MEK 1 Inhibitor AZX6244 with Plexiform  
Children's Tumor Foundation (Children's Hospital of Philadelphia)  
02/01/12-01/31/14  
$37,182  
Children's Oncology Group Chair - Workload Intensity  
National Institutes of Health (Children's Hospital of Philadelphia)  
U10 CA 098543  
03/01/12-02/28/17  
$11,550

WELLS, S  
Fanconi Anemia and HPV Transformation  
National Institutes of Health  
R01 CA 102357  
09/28/09-08/31/14  
$191,834  
Role and Regulation of the Human DEK Proto-Oncogene  
National Institutes of Health  
R01 CA 116316  
09/05/12-06/30/17  
$174,318
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<th>Project Title</th>
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<th>End Date</th>
<th>Funding Agency</th>
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<td>Targeting the Ron-DEK Signaling Axis in Breast Cancer</td>
<td>Department of Defense</td>
<td>09/01/12-08/31/14</td>
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<td>W81XWH-12-1-0194</td>
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<td>WILLIAMS, J</td>
<td>ETV2 Role in Tumor-Induced Lymphangiogenesis, A Putative Therapeutic Target</td>
<td>St. Baldrick’s Foundation</td>
<td>07/01/12-06/30/14</td>
<td>St. Baldrick’s Foundation</td>
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**Current Year Direct** | **$2,610,576**

**Industry Contracts**

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<td>FOUALDI, M</td>
<td>Genetech, Inc</td>
<td>$19,250</td>
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<tr>
<td>GELLER, J</td>
<td>Bayer Healthcare, Inc</td>
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<td>WAGNER, L</td>
<td>Sarcoma Alliance for Res through Collaboration</td>
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<td>WEISS, B</td>
<td>Children's Hospital Los Angeles</td>
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**Current Year Direct Receipts** | **$108,642**

**Total** | **$2,719,218**