University of California, San Francisco

CURRICULUM VITAE

Name: Joanna Joyce Phillips, MD, PhD

Position: Professor In Residence
Neurological Surgery
School of Medicine

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EDUCATION

1990 - 1994	Cornell University, Ithaca, NY	B.S.	Honors, Biology	
1994 - 2002	University of Pennsylvania School of Medicine	M.S.T.P.		
2001 - 2001	University of Pennsylvania School of Medicine	Ph.D.	Neuroscience	Susan R. Weiss Ph.D.
2002 - 2002	University of Pennsylvania School of Medicine	M.D.		
2002 - 2004	University of Washington, Seattle, WA	Resident	Pathology	
2004 - 2006	University of California, San Francisco	Fellow	Neuropathology	
2006 - 2010	University of California, San Francisco	Postdoctoral scholar	Anatomy	Zena Werb Ph.D.

LICENSES, CERTIFICATION

2004	Medical licensure (A86595), California
2007	Anatomic Pathology/Neuropathology Board Certification, recertified 2017

PRINCIPAL POSITIONS HELD

2008 - 2010	University of California, San Francisco	Clinical Instructor	Pathology
2010 - 2016	University of California, San Francisco	Assistant Professor	Neurological Surgery and Pathology

2016 - present	University of California, San Francisco	Associate Professor	Neurological Surgery and Pathology
2020 - present	University of California, San Francisco	Professor	Neurological Surgery and Pathology

OTHER POSITIONS HELD CONCURRENTLY

2010 - 2014	UCSF Brain Tumor Center Tissue Bank (Biorepository and Pathology Core)	Co-Director	Neurological Surgery
2010 - 2017	UCSF Neuropathology BTRC Biomarkers Laboratory, a CLIA-certified laboratory	Co-Director	Pathology
2012 - present	UCSF Helen Diller Family Comprehensive Cancer Center	Member	Neurologic Oncology
2013 - present	Biomedical Graduate Students (BMS) graduate group	Member	
2014 - present	UCSF Central Nervous System Tissue Bank (Biorepository and Pathology Core)	Director	Neurological Surgery
2017 - present	UCSF Neuropathology BTRC Biomarkers Laboratory, a CLIA-certified laboratory	Director	Pathology

HONORS AND AWARDS

1993	Hughes Scholars Program, Cornell University
1999	American Society for Virology travel award
2001	Stuart Mudd Award in Microbiology, University of Pennsylvania School of Medicine
2005	Moore Award, Best paper on clinico-pathological correlation, Annual meeting American Association of Neuropathologists
2006	Nominated for University of California, San Francisco School of Medicine Essential Core Teaching Award
2006	Young Pathologist Fellowship, American Society for Investigative Pathology, Experimental Biology annual meeting

2006	Nominated for UCSF School of Medicine Essential Core Teaching Award
2008	Rubinstein Award, Best paper on neuro-oncology, Annual meeting American Association of Neuropathologists
2010	Aspen Cancer Conference Fellow
2012	Second place, Moore Award, Best paper on clinico-pathological correlation, Annual meeting American Association of Neuropathologists
2013	Nominated for UCSF School of Medicine Essential Core Teaching Award
2015	Excellence in Teaching Award in medical education from the Haile T. Debas Academy of Medical Educators
2018	Nominated from UCSF to submit a V Foundation 2018 Cancer Survivorship Award application

KEYWORDS/AREAS OF INTEREST

Adult and pediatric brain tumors, tumor microenvironment, proteoglycans, glycobiology, glioma invasion, CNS immunology, tumor signaling, molecular classification, biomarkers, and therapeutic resistance

CLINICAL ACTIVITIES

CLINICAL SERVICES

2008 - present	Neuropathology Autopsy service	6 weeks per year
2010 - present	Neuropathology Intraoperative Surgical Consultation Service	2-3 nights per month
2010 - present	Surgical Neuropathology Service	as needed
2010 - present	UCSF Neuropathology BTRC Biomarkers Laboratory, a CLIA-certified laboratory	Daily
2015 - present	UCSF Pediatric Neuro-Oncology Tumor Board	24 weeks per year

PROFESSIONAL ACTIVITIES

MEMBERSHIPS

2004 - present	American Society for Investigative Pathology
2005 - present	American Association of Neuropathologists

2005 - present	American Society for Cell Biology
2008 - present	UCSF Brain Tumor Research Center, member
2009 - present	American Association for Cancer Research
2010 - present	Glycobiology Research and Training Program
2010 - present	Society for Neuro-Oncology
2012 - present	Society for Glycobiology
2014 - present	American Society for Matrix Biology (ASMB)

SERVICE TO PROFESSIONAL ORGANIZATIONS

2012 - 2017	Ben and Catherine Ivy Foundation Consortium	Member
2014 - 2014	American Association of Neuropathologists Annual Meeting	Co-Chair Molecular Phenotypes Session
2014 - 2014	American Society for Matrix Biology Biennial meeting	Proteoglycans and Glycobiology Session Chair
2014 - 2016	Annual Meeting of the Society for Neuro-Oncology	Member of Program Planning Committee
2014 - 2017	United States & Canadian Academy of Pathology	USCAP Abstract Review Board, Neuropathology/Ophthalmic Pathology category
2015 - 2015	American Association of Neuropathologists Annual Meeting	Co-Chair Adult Brain Tumors Session
2016 - 2016	Gordon Research Conference: Proteoglycans	Cancer and Infectious Diseases Session Co-Chair
2016 - present	Children's Brain Tumor Tissue Consortium (CBTTC) Scientific Committee and Executive Committee	Member, Scientific and Executive Committee
2017 - present	Pathology and Laboratory Quality Center of the College of American Pathologists' (CAP) evidence-based guideline on diagnostic testing for diffuse gliomas	Member, Advisory Panel
2018 - 2018	American Association of Neuropathologists Annual Meeting	Co-Chair Adult Brain Tumor Session
2018 - present	Annual Meeting of the Society for Neuro-Oncology	Abstract Reviewer
2019 - 2019	SNO Daily Highlights for Basic Science, at the 2019 SNO Annual Meeting in Phoenix, AZ	Presenter
2019 - present	RANO Recurrent Glioma working group	Member

2020 - present	Pacific Pediatric Neuro-Oncology Consortium (PNOC) Low Grade Glioma Working Group and subgroups: LGG-Data Integration and Preclinical Models	Member, co-Leader

SERVICE TO PROFESSIONAL PUBLICATIONS

2005 - present	Ad hoc reviewer for Acta Neuropathologica
2009 - present	Ad hoc reviewer for Cancer Research
2010 - present	Ad hoc reviewer for several journals including: Neuro-Oncology, Journal of Neuro-Oncology, Molecular Carcinogenesis, Brain Pathology, PlosONE, Journal of Neuropathology and Experimental Neurology, and FEBS Journal
2012 - present	Ad hoc reviewer for J Clinical Investigation
2012 - present	Editorial Board, Brain Pathology
2013 - present	Editorial Board, Journal of Neuropathology and Experimental Neurology
2013 - 2016	Breaking Advances Editor, Cancer Research
2014 - present	Ad hoc reviewer for several additional journals including: Science Signaling, Molecular and Cellular Proteomics, and Nature Reviews Cancer, Glycobiology, International Journal of Cancer, British Journal of Cancer
2016 - present	Ad hoc reviewer for several additional journals including: Cancer Cell, Scientific Reports, Clinical Cancer Research, Oncotarget, Experimental Neurology, Cancer Letters, Matrix Biology, Journal of Materials Chemistry, European Physical Journal
2018 - present	Ad hoc reviewer for several additional journals including: Oncogene, Journal of the National Comprehensive Cancer Network, Acta Neuropathologica Communications, Molecular Cancer Therapeutics, Molecular Case Studies, Journal of Pathology, Precision Oncology, and Genetics

INVITED PRESENTATIONS - INTERNATIONAL

2006	XIVth International Congress of Neuropathology; San Francisco	Poster presentation
2013	8th Annual Helsinki Biomedical Graduate Program Symposium on the "Cellular Microenvironment"	Speaker
2013	FEBS Advanced Lecture Course: Matrix Pathobiology, Signaling, and Molecular Targets.	Speaker
2014	Cell Biology Program, The Hospital for Sick Children, Toronto, Canada	Speaker
2014	International Conference on Brain Tumor Research and Therapy (ICBTRT), Lake Tahoe, CA	Speaker

2015	Rudbeck Seminar speaker, Department of Immunology, Genetics, and Pathology, Uppsala University, Sweden	Speaker
2016	International Conference on Brain Tumor Research and Therapy (ICBTRT), Okinawa, Japan	Speaker
2016	Pediatric Infiltrating Glioma Symposium, London, England	Speaker
2017	Biomedicum Seminar series, Helsinki, Finland	Speaker
2018	International Conference on Brain Tumor Research and Therapy (ICBTRT), Os, Norway	Speaker
2019	BioMedical and BioSciences Lecture Series/CCBIO seminar series, University of Bergen, Norway	Speaker
2019	Biomedical Research Course BMED904 Matrix Biology, University of Bergen, Norway	Speaker
2019	3rd Pediatric DIPG and high grade glioma meeting, Napa, CA	Speaker
2021	International Conference on Brain Tumor Research and Therapy (ICBTRT), Kiawah Island, SC	Speaker
2021	Biomedical Research Course BMED904 Matrix Biology, University of Bergen, Norway	Speaker

INVITED PRESENTATIONS - NATIONAL

1999	Keystone Symposium, Infections of the Nervous System	Speaker
2000	Keystone Symposium, Cell Biology of Viral Entry, Replication and Pathogenesis	Speaker
2000	American Society for Virology	Speaker
2005	American Association for Neuropathologists annual meeting	Speaker
2008	American Association of Neuropathologists-American Society for Investigative Pathology annual meeting.	Speaker
2009	American Neurological Association/NINDS Jr. Faculty Development Course	Poster, participant
2011	14th Annual San Diego Glycobiology Symposium	Speaker
2011	Pediatric Neuro-Oncology Basic and Translational Research Conference	Speaker and poster
2011	Society for Neuro-Oncology Annual Meeting, Garden Grove, CA; Sunrise Session entitled "Stratification of adult and pediatric patients with molecular pathology."	Speaker
2012	Gordon Research Conference, Proteoglycans	Invited speaker

2012	NIH/NCI Alliance of Glycobiologists for Detection of Cancer, Steering Committee Meeting	Speaker
2014	Pediatric high grade glioma meeting	Participant
2014	Gordon Research Conference, Proteoglycans	Speaker
2014	NIH/NCI Alliance of Glycobiologists for Detection of Cancer, Steering Committee Meeting	Speaker
2014	American Society for Matrix Biology Biennial meeting	Concurrent session Chair and Speaker
2014	Society for Neuro-Oncology Annual meeting	Moderator, Platform Presentations
2015	NIH/NCI Alliance of Glycobiologists, Steering Committee Meeting	Speaker
2016	San Diego Glycobiology Symposium	Speaker
2016	Multiple Hereditary Exostoses Research Foundation Conference, Sulfatases and GBM	Invited speaker
2016	NIH/NCI Alliance of Glycobiologists, Steering Committee Meeting	Speaker
2016	Gordon Research Conference, Proteoglycans	Co-Chair
2016	Loglio Consortium Summit, McLean, VA	Speaker
2016	Society for Neuro-Oncology 21st Annual Scientific Meeting Education Day	Speaker
2017	University of Texas San Antonio, Department of Neuroscience	Invited speaker
2017	Johns Hopkins University School of Medicine, Department of Cell Biology	Invited speaker
2017	Pediatric Brain Tumor Foundation Research Meeting	Speaker
2017	Children’s Tumor Foundation, Annual Synodos Network Meeting	Participant
2017	NIH/NCI Alliance of Glycobiologists, Steering Committee Meeting	Speaker
2017	Society for Neuro-Oncology Annual Meeting, speaker in Sunrise Session entitled "A 'vagabond theory' of Glioblastoma: picking one’s way through the brain microenvironment to fatal progression", San Francisco, CA	Invited speaker
2018	American Society for Clinical Oncology Annual Meeting, Discussant, "Application of precision genomics for clinical trials", Chicago, IL	Invited speaker

2018	American Association for Neuropathologists Annual Meeting, Louisville, KY.	Speaker
2018	Loglio Consortium Summit, McLean, VA	Speaker
2018	Origins of Cancer symposium: Genetic and epigenetic alterations in pediatric cancers, "Extracellular regulation of oncogenic signaling in brain cancer", Van Andel Research Institute, Grand Rapids, MI	Invited speaker
2019	NIH Brain Tumor SPORE panel discussion on Biorepositories, UCLA, CA	Panelist
2019	Banbury Center meeting on Glioblastoma, Cold Spring Harbor Laboratory	Invited speaker
2019	American Association for Neuropathologists Annual Meeting, Diagnostic Slide Session, Atlanta GA	Participant
2019	Loglio Consortium Summit, McLean, VA	Invited participant
2020	Fundamentals of Biomedicine Research Seminar Series, Department of Molecular and Translational Medicine, Texas Tech University Health Sciences Center at El Paso, TX	Invited speaker
2020	American Association for Neuropathologists Annual Meeting, Virtual	Speaker
2020	San Diego Glycobiology Symposium - cancelled due to COVID	Speaker
2020	Department of Medicinal Chemistry Seminar Series, Virginia Commonwealth University, Richmond, VA	Invited speaker

INVITED PRESENTATIONS - REGIONAL AND OTHER INVITED PRESENTATIONS

2002	Medicine Grand Rounds, University of Washington, Seattle, WA	Speaker
2003	Medicine Grand Rounds, University of Washington, Seattle, WA	Speaker
2004	Pediatrics Grand Rounds, Children's Hospital and Regional Medical Center, Seattle, WA	Speaker
2005	Pathology Grand Rounds, UCSF	Speaker
2005	Neurology Monthly Case Conference, UCSF	Speaker
2005	South Bay Pathology, monthly meeting, case presentation	Speaker
2006	Pathology Grand Rounds, UCSF	Speaker
2006	Neurology Grand Rounds Case Conference, UCSF	Speaker
2007	UCSF Brain Tumor SPORE; speaker	Speaker

2007	Neuropathology Seminar, University of Pennsylvania, Philadelphia, PA	Speaker
2008	Neurosurgery Grand Rounds, University of Washington, Seattle, WA	Speaker
2008	Pathology Seminar and slide review, Stanford University, Palo Alto, CA	Speaker
2008	UCSF/Stanford Pediatric Brain Tumor Research Conference	Speaker
2009	UCSF Pediatric Malignancies Program Seminar	Speaker
2010	UCSF Helen Diller Cancer Center Seminar	Speaker
2011	UCSF Department of Pathology, Research Interest Group	Speaker
2012	UCSF Pediatric Brain Tumor Research in Progress	Speaker
2013	UCSF BTRC Research in Progress	Speaker
2014	UCSF BTRC Research in Progress	Speaker
2016	UCSF Department of Pathology, Research Interest Group	Speaker
2017	UCSF Pathology Research Day	Speaker
2018	LoGlio Research Updates: Biospecimen and Biorepository Core	Speaker
2019	UCSF Brain Tumor Center SPORE Developmental Research Project update	Speaker
2019	UCSF Brain Tumor Center Biorepository Update	Speaker

CONTINUING EDUCATION AND PROFESSIONAL DEVELOPMENT ACTIVITIES

2008	Society for Neuro-Oncology Education Day
2010	American Association of Neuropathologists Special Course
2010	Society for Neuro-Oncology Education Day
2011	American Association of Neuropathologists Special Course
2011	Society for Neuro-Oncology Education Day
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2017	Society for Neuro-Oncology Education Day
2018	American Association of Neuropathologists Special Course
2019	CORO Leadership Workshop
2019	Differences Matter Diversity, Equity, and Inclusion Champion Training, UCSF School of Medicine and Enact Leadership

GOVERNMENT AND OTHER PROFESSIONAL SERVICE

2014 - 2014	Canadian Institutes of Health Research (CIHR)	Reviewer
2012 - 2017	NIH/NCI Alliance of Glycobiologists Steering Committee	Member
2015 - 2015	Neurofibromatosis Therapeutic Acceleration Program (NTAP)	Reviewer
2015 - 2015	NIH Special Emphasis Panel, "Accelerating Translation of Glycoscience: Integration and Accessibility"	Member
2017 - 2017	ANR, French National Research Agency	Reviewer
2017 - 2017	NIH/NIEHS Small Business Innovative Research (SBIR) Special Emphasis Panel, Archived Tissue.	Member
2018 - 2018	NIH Special Emphasis Panel: Novel and Innovative Tools to Facilitate Identification, Tracking, Manipulation, and Analysis of Glycans and their Functions (U01); Innovative Adaptations to Simplify Existing Technologies for Manipulation and Analysis of Glycans (U01)	Member & Co-Chair
2018 - 2018	National Brain Tumor Charity, Expanding Theories	Reviewer
2018 - 2018	NIH/NCI Cooperative Human Tissue Network 2018	Ad hoc
2019 - 2019	NIH ZRG1 U51, Novel and Innovative Tools to Facilitate Identification, Tracking, Manipulation, and Analysis of Glycans and their Functions; and Innovative Adaptations to Simplify Existing Technologies for Manipulation and Analysis of Glycans	Member
2019 - 2020	NIH F09B Fellowship Review Panel, Oncology 1 - Basic Translational IRG (OBT)	Ad hoc
2019 - 2019	Children’s Cancer and Leukaemia Group (CCLG)	Ad hoc
2019 - 2019	National Brain Tumour Charity, Quest for Cures Full Awards	Ad hoc

2020 - 2021	NIH/NCI Comparative Meningioma Pathology Board, Canine Brain Tumor Consortium, Comparative Oncology Program, Center for Cancer Research	Member
2020 - 2020	NIH/NCI Special Emphasis Panel, ZCA1 SRB-T (J1), Integrating Biospecimen Science Approaches into Clinical Assay Development (U01)	Ad hoc

UNIVERSITY AND PUBLIC SERVICE

UCSF CAMPUSWIDE

2005 - 2005	Postdoctoral Scholars Teaching Award committee	Member

SCHOOL OF MEDICINE

2010 - 2017	UCSF Neuropathology BTRC Biomarkers Laboratory, a CLIA-certified laboratory	Co-Director
2010 - present	Cancer Center Tissue Core Shared Resource Oversight Committee	Member
2012 - 2013	Cancer Center Tissue Task Force	Member
2013 - 2014	UCSF Precision Medicine in Oncology Discovery Working Group	Member
2015 - present	UCSF Pediatric Neuro-Oncology Tumor Board	Neuropathologist
2016 - present	UCSF Biospecimen Resources Program Common Data Elements Oversight Committee	Member
2017 - present	UCSF Neuropathology BTRC Biomarkers Laboratory, a CLIA-certified laboratory	Director
2019 - present	ACGME Neuropathology Fellowship Faculty	Member
2019 - present	Cancer Research in 2030: Task Force 3: Detecting and Diagnosing Cancer	Member

DEPARTMENTAL SERVICE

2009 - present	UCSF Brain Tumor Center Tissue Core Committee, Department of Neurological Surgery	Committee Chair
2009 - 2010	UCSF Brain Tumor Center Tissue Bank, Department of Neurological Surgery	Neuropathologist
2009 - 2017	UCSF Pediatric Brain Tumor Foundation Institute Tissue Bank, Department of Neurological Surgery	Director and Neuropathologist
2010 - 2014	UCSF Brain Tumor Center Tissue Bank, Department of Neurological Surgery	Co-Director

2010 - 2018	UCSF Brain Tumor SPORE Biorepository/Pathology Core, Department of Neurological Surgery	Co-Director
2012 - present	Institutional Animal Care and Use Committee, UCSF, Departmental Scientific Merit Review Committee, Department of Neurological Surgery	Member
2013 - 2018	Biospecimen Core for a Brain Program Project, Department of Neurological Surgery	Director
2014 - present	UCSF Brain Tumor Center Tissue Bank, Department of Neurological Surgery	Director
2015 - 2015	Faculty Search Committee, Department of Pathology	Member
2015 - 2015	Faculty Search Committee, Department of Neurological Surgery	Member
2016 - 2016	Suzanne Marie Haderle and Robert Vincent Haderle Endowed Chair Search Committee, Department of Neurological Surgery	Member
2016 - present	Neuropathology Program Review Committee, Department of Pathology	Member
2016 - present	Merits and Promotions Committee, Department of Neurological Surgery	Member
2016 - present	Neuropathology Fellowship Clinical Competency Committee, Department of Pathology	Member
2017 - present	Brain Tumor Center invited faculty lectures, meet and help host national and international experts in the field, Department of Neurological Surgery	Participant
2018 - present	Digital Pathology Working Group, Department of Pathology	Member
2018 - present	UCSF Brain Tumor SPORE Biorepository/Pathology Core, Department of Neurological Surgery	Director
2019 - 2019	Robert and Ruth Halperin Endowed Chair in Meningioma Research Search Committee, Department of Neurosurgery	Member
2019 - 2024	Biospecimen and Biomarker Core for a Brain Program Project, Department of Neurological Surgery	Director
2019 - present	Brain Tumor SPORE Executive Committee, Department of Neurological Surgery	Member

COMMUNITY AND PUBLIC SERVICE

2007 - 2007	San Francisco School District Science Education Partnership Bio-Chem teach	Co-Teacher

2017 - present	Research Advisory Network (RAN), Pediatric Brain Tumor Foundation	Invited member
2019 - present	Pediatric Brain Tumor Foundation drug delivery request for proposals	Co-Chair

RESEARCH AND CREATIVE ACTIVITIES

RESEARCH AWARDS - CURRENT

1. 1U01CA229345-01 — Principal investigator — 35 % effort — Phillips (PI)
   NIH/NCI — 04/01/2019 03/31/2024
   Mitigation of preanalytic factors influencing brain tumor protein phosphorylation
   The success of precision medicine is dependent on biomarkers that permit accurate and reliable stratification of patients and assessment of response to therapy. Preanalytic variables such as tumor heterogeneity and tissue handling, however, can obscure clinical assessment of biomarkers. The proposed studies use biospecimen sciences to develop evidence-based standards to assess phosphoprotein levels for evaluation of oncogenic signaling pathway activity in diffuse glioma, a highly heterogeneous disease.
   Principal investigator

2. 2P50 CA097257-16 — Core A Director — 10 % effort — Berger (PI)
   NIH/NCI — 09/18/2018 08/31/2023
   Brain Tumor SPORE Grant
   The Brain Tumor SPORE Biospecimen and Pathology Core is an essential component of the UCSF Brain Tumor SPORE grant, which is comprised of interdisciplinary teams of investigators from the Neuro-Oncology Program of the UCSF Cancer Center dedicated to improving the diagnosis and treatment of brain tumor patients.
   Director, Biospecimen and Pathology Core

3. CA118816 — Core 1 Director — 20 % effort — Chang (PI)
   NIH/NCI — 08/01/2019 07/31/2024
   Noninvasive Metabolic Signatures to Improve Management of Molecular Subtypes of Glioma
   The overall goal of this study is to assess the clinical value of voxel-wise predictive spatial maps of tumor heterogeneity that directly reflect histopathologically defined tumor biology. We hypothesize that multi-parametric analysis of anatomical, physiological, and metabolic images in combination with state-of-the-art predictive algorithms will generate spatial maps that define the malignant characteristics of tumor, elucidate the biological properties of residual disease, and distinguish treatment related changes from tumor recurrence. The Biospecimen Core will ensure that the acquisition distribution and analysis of biospecimens meets the needs of the Projects.
   Director, Biospecimen and Biomarker Core

4. R01 MH113896 — Co-Investigator — 1 % effort — Oldham (PI)
   NIH/NIMH — 09/01/2017 08/31/2022

Decoding the molecular basis of cellular identity in the human brain

This project proposes a new strategy for determining which genes are most consistently and specifically turned on in major cell types of the normal adult human brain.

I provide neuropathology expertise and guidance.

5. 1 R01 CA244838-01A1 | Co-Investigator | 5 % effort | Costello (PI)
   NIH/NCI | 7/1/2020 | 6/30/2025
   3D spatial approach to discover genomic effectors of immunosuppression during malignant transformation
   The goal of the project is to use a 3D spatial approach to discover genomic effectors of immunosuppression during malignant transformation in glioma.
   As a Co-Investigator I will provide neuropathology and biospecimen expertise.

6. R01 P0540189 | Co-Investigator | 5 % effort | Oldham (PI)
   NIH/NINDS | 4/1/2020
   Multiscale transcriptional architecture of the human brain
   The goal of the project is to determine the multiscale transcriptional architecture of the human brain.
   As a Co-investigator I will provide expertise in tissue-based analyses and neuropathology for the project.

7. R35 CA242447 | Co-Investigator | 2.5 % effort | Weaver (PI)
   NIH | 07/02/2024 | 06/30/2027
   Tissue mechanics reprograms the tissue to malignancy and metastasis
   This proposal studies the mechanical properties of tumors and is focused on understanding how tissue mechanics reprograms cells to promote malignancy and metastasis.
   As a Co-Investigator I will provide expertise in neuropathology, biospecimen analyses, and murine models for glioma.

8. T.J. Martell Foundation | Principal Investigator | 0 % effort | Phillips (PI)
   02/01/2019 | 01/31/2021
   Analysis of intratumoral heterogeneity to improve outcomes for brain tumor survivors
   The goal of this project is to evaluate intratumoral heterogeneity and mechanisms of tumor progression in diffuse glioma.
   Principal investigator.

9. Loglio consortium | Principal Investigator | 13 % effort | Costello and Pieper (PI)
   Low-grade glioma consortium | 10/01/2018 | 09/30/2021
   The Biorepository and Biomarker Core for the Loglio consortium is dedicated to the optimal procurement, handling, and analysis of multi-regional and bulk brain tumor biospecimens and blood from patients with lower grade diffuse glioma.

Principal Investigator, Biorepository and Biomarker Core

10. Project co-Principal Investigator | As needed % effort | Chang and Clarke (PI)

Glioblastoma Precision Medicine Program | 04/01/2019 | 03/31/2021

Project 6: Proposal to enhance the GPMP using multisite genomic and clinical data from GBM patients and transcriptome analysis of a unique cohort of patients with paired samples across the trajectory of the illness

Our long-term goal is the design of combination therapies for GBM based on an understanding of how intra-tumor heterogeneity shapes residual disease. To achieve this goal we are leveraging existing GBM tissue samples acquired across the trajectory of a patient's illness to examine the added value of RNA-sequencing analysis to the CLIA certified UCSF 500 gene panel in identifying targets for treatment.

Develop and implement protocols for the systematic identification, analysis, and distribution of high-quality formalin-fixed paraffin-embedded (FFPE) and flash-frozen tumor samples and blood from patients with paired newly diagnosed and recurrent GBM for DNA and RNA isolation.

RESEARCH AWARDS - SUBMITTED

1. 1 P50 CA261630-01 | Core Co-Director | 5 % effort | Resnick/Prados (PI)

NIH/NCI | 07/01/2021 | 06/30/2026

Pediatric Brain Tumor SPORE

Brain and spinal cord tumors are the leading cause of all cancer deaths in children. This project represents the proposed advancements of a transdisciplinary team of basic, translational and clinical scientists who seek to change this statistic and have focused their collaborative research efforts on the causes and novel treatments of children with brain tumors.

Core, Biospecimen and Pathology Core, Co-Director

RESEARCH AWARDS - PAST

1. CA108462 | Trainee

NIH/NCI | 2005 | 2006

Institutional Kirschstein National Research Service Award

2. Susan Resnick | Trainee | Phillips (PI)

Fisher/ABTA Fellowship

American Brain Tumor Association | 07/01/2006 | 06/30/2008

The role of the tumor microenvironment in progression of glial tumors

3.	K08 NS063456	Principal Investigator		Phillips (PI)
	NIH/NINDS		09/30/2009	08/31/2011
	ARRA Administrative Supplement to parent grant		$ 25,000 direct/yr 1	$ 50,000 total

4.	K08 NS063456-02	Principal Investigator		Phillips (PI)
	NIH/NINDS		07/01/2008	06/29/2013
	The role of microglia and macrophages in the development of brain tumors		$ 161,406 direct/yr 1	$ 807,030 total

The major goals of this Mentored Clinical Scientist Development Award are to characterize the composition of the microglial/macrophage response to brain tumors, determine the interaction between microlgia/macrophages and tumor cells, particularly at the invasive edge, and determine whether tumor-associated microglia/macrophages promote tumor progression and decrease survival. This award will also prepare the PI for the role of an independent academic investigator.

5.	1R21 CA161545	Collaborator		Ronen (PI)
	NIH/NCI		04/01/2012	3/31/2014
	MR Imaging of IDH Mutational Status in Brain Tumors		$ 2500 direct/yr 1	$ 5000 total

The goal of this project is to develop magnetic resonance spectroscopy (MRS)-based approaches for noninvasive assessment of the mutational status and activity of isocitrate dehydrogenase (IDH) by detecting synthesis of the oncometabolite 2-hyroxyglutarate (2-HG), which is produced by mutant IDH, and by identifying additional metabolic changes associated with mutant IDH.

6.	JSMF Brain Cancer Research Award	Principal Investigator		Phillips (PI)
	James S. McDonnell Foundation		01/01/2013	12/31/2015
	Proteoglycans as novel biomarkers and therapeutic targets in recurrent glioblastoma		$ 174,000 direct/yr 1	$ 450,000 total

Proteoglycans as novel biomarkers and therapeutic targets in recurrent glioblastoma. The major goal of this project is to develop functional blood biomarkers, based on the identification of specific alterations in HSPGs, for the monitoring of tumor progression and diagnosis of recurrent GBM.

7.	R21 NS083171-01	Co-Investigator		Okada (PI)
	NIH/NINDS		07/01/2014	06/30/2016
	Novel adoptive transfer therapy for glioma using CAR-transduced Type17 T-cells		$ 250,000 direct/yr 1	$ 500,000 total

Goal is to establish the preclinical feasibility, safety, and efficacy of adoptive cell transfer (ACT) therapy with novel Type17 T-cells transduced with chimeric antigen receptor (CAR) in clinically relevant rodent models.

8. 1U54CA163155 — Imaging and Biospecimen Core Director — Bergers (PI)

NIH/NINDS — 09/26/2011 — 07/31/2016

Biophysical and molecular dialogue of glioma cells and the brain microenvironment — $ 50,760 Core only direct/yr 1 — $ 253,800 Core only total

Biophysical and molecular dialogue of glioma cells and the brain microenvironment Tissue Procurement Core: The Core will provide the expertise required to facilitate the collection of brain tumor surgical specimens and relate molecular features of the tumors with quantitative information derived from investigator experiments.

9. PBTF Institute — Core Director — Berger (PI)

Pediatric Brain Tumor Foundation of the United States — 01/01/2013 — 12/31/2017

Program on Pediatric Brain Tumor Biology and Therapeutics — $ 15,000 Core only direct/yr 1 — $ 45,000 Core only total

10. 1R01CA172845 — Collaborator — Ronen (PI)

NIH/NCI — 01/15/2013 — 01/14/2018

Metabolic Reprogramming in Brain Tumors. — $ 302,886 direct/yr 1

To test the hypothesis that the neomorphic activity of mutant isocitrate dehydrogenase (IDH) results not only in production of the oncometabolite 2-hydroxygluatarte (2-HG), but also in a wider metabolic reprogramming which is essential for tumor progression and therefore can be targeted in the treatment of IDH-mutant gliomas. A secondary goal is to identify novel imaging biomarkers for monitoring this metabolic reprogramming and its normalization with treatment.

11. R01 — Collaborator — Costello (PI)

NIH — 07/01/2013 — 03/31/2018

Imaging guided genomics of malignant transformation. — $ 410,012 direct/yr 1

This project will use novel quantitative imaging methods to guide biopsies to biologically distinct regions of brain tumors for targeted exome and transcriptome analysis. Our goal is to identify naturally evolving and treatment-induced mutations that drive malignant transformation (MT) of low grade glioma (LGG) to high grade glioma (HGG).

12. 1R01 NS081117 — Principal Investigator — Phillips (PI)

NIH/NINDS — 09/30/2012 — 06/30/2018

Heparan sulfate proteoglycans as critical regulators of brain cancer malignancy.		$ 218,750 direct/yr 1	$ 1,093,750 total

The major goals of this project are to define the mechanisms by which the extracellular heparan sulfate proteoglycans (HSPGs) regulate tumor biologic behavior in malignant brain tumors, including effects on oncogenic cell signaling and on the tumor-associated microglia/macrophage response. In addition, we will explore the potential therapeutic utility of agents that alter HSPGs in GBM.

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13. 1U01CA168878	Principal Investigator		Phillips and Lemjabbar-Alaoui (PI)
NIH/NCI		07/01/2012	06/30/2018
Extracellular sulfatases as novel biomarkers for early detection of cancer.		$ 145,250 Phillips direct/yr 1	$ 726,250 Phillips total

The major goals of this project are to develop biomarker assays based on the SULFs and SULF bioactivity for the early detection and diagnosis of lung and brain cancer. These studies are based on the mechanistic role of the SULFs in tumorigenesis and address the currently unmet need for a biomarker for the early detection of these two deadly diseases.

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14. P01 CA118816-02	Core B Director		Chang (PI)
NIH/NCI		07/01/2013	06/30/2018
Imaging and tissue correlates to optimize management of glioblastoma. Core B: Biospecimen and Biostatistics Core		$ 1,504,404, Core B 229,821 direct/yr 1	

The overall objective of this Program Project Grant (PO1) is to integrate advances in physiologic and metabolic imaging with ex vivo biological and genetic information obtained from the analysis of image guided tissue samples in order to optimize the management of patients with glioblastoma (GBM). This is an important clinical problem because the median survival for patients with GBM is limited and there are currently few prognostic factors that can be used to decide which treatments are likely to be the most effective. Core B (Phillips) Biospecimen and Biostatistics Core The Biospecimen component, will be led by Dr. Phillips, who will interact on an ongoing basis with the leaders of each Project to ensure that the acquisition distribution and analysis of biospecimens meets the needs of the Projects. The Biostatistical component will be led by Dr. Molinaro, who will interact on an ongoing basis with the individual leaders from all three Projects to assess their statistical needs.

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15. Ivy Foundation Clinical Trials Consortium	UCSF Neuropathologist		Prados (PI)
Ben and Catherine Ivy Foundation		04/01/2010	11/30/2018
Ivy Foundation Early Phase Clinical Trials Consortium		$ 7,500 Core only direct/yr 1	$ 22,500 Core only total

The overall goal of the Consortium is to significantly increase the efficiency of therapeutic trials, increase the likelihood of success, and minimize exposure of drugs to patients with little chance of success. We will achieve this goal by using small sample size (10-15 patients) phase-2 trials giving therapeutic agents to patients prior to and following surgery.

16. Principal Investigator — Phillips (PI)

T.J. Martell Foundation — 02/01/2018 — 01/31/2019

Cooperative interactions between TERT promoter mutation and oncogenic signaling pathways in glioma: Breaking the Silence — $ 50,000 direct/yr 1 — $ 50,000 total

The maintenance of telomeres and escape from replicative senescence is an essential step in carcinogenesis. TERT promoter mutations (TPMs) abrogate telomere silencing and are an important mechanism of telomere maintenance in cancer, yet they are only found in specific brain tumor subsets. We hypothesize that this selectivity is due to a cooperativity that exists between TPMs and specific signaling pathways active in a cell that promote oncogenesis and prevent replicative senescence. We will use BRAF altered tumors to model the changes that occur with the acquisition of TPMs.

Principal investigator

17. Principal Investigator — 0 % effort — Phillips (PI)

Sence Foundation — 10/24/2018 — 10/23/2019

Brain Tumor Biomarkers — $ 15,000 direct/yr 1 — $ 15,000 total

We are investigating protein biomarkers as a means to improve therapeutic stratification of patients.

Principal Investigator

18. A128292 — Principal Investigator — 0 % effort — Phillips (PI)

Children's Brain Tumor Tissue Consortium (CBTTC) — 05/04/2016 — 12/31/2019

CBTTC Member — $ 75,000 direct/yr 1 — $ 225,000 total

The goal of the project is to create a centralized, repository of pediatric blood, cerebrospinal fluid (CSF), brain and spinal tumor specimens to advance the understanding of the development, progression and the treatment of these diseases.

Principal Investigator

19. 2P50 CA097257 — PI — 0.01 % effort — Berger (PI)

NIH/NCI Brain Tumor SPORE Developmental Research Award — 09/01/2018 — 08/31/2020

Optimal patient stratification to minimize toxicity and maximize benefit — $ 55,773.75 direct/yr 1 — $ 111,578 total

The overall goal is to accelerate the application of advances in machine learning to clinical decision-making and care of cancer patients. By integrating all clinical, pathology, and molecular data using machine learning techniques we propose that we can improve patient stratification and minimize toxicity and maximize benefit.

Co-Principal Investigator

20.	Principal Investigator	0.5 % effort	Phillips (PI)
Gerson and Barbara Bakar Philanthropic Fund		03/20/2019	03/19/2020
Biomarker development for brain tumors		$ 50,000 direct/yr 1	$ 50,000 total
We are investigating and testing different biomarkers to improve patient diagnosis and stratification for therapy.			
Principal investigator			
21. Children's Tumor Foundation Synodos	Project Co-Principal Investigator	5 % effort	Phillips (PI)
NF1 LGG Synodos: Target Identification and Modeling of NF1 Associated Low-Grade Glioma		12/01/2015	04/30/2020
Project "Comparative analysis and modeling of pediatric low-grade glioma"		$ 111,598 direct/yr 1	$ 334,794 total
The goal of the project is to clarify biology, genetics and therapeutic approaches to NF1-driven low-grade glioma (LGG). The project is under NCE until 6/15/2020 based on ongoing experiments.			
Co-Principal investigator			

PEER REVIEWED PUBLICATIONS

1. Pekosz, A., **J. Phillips**, D. Pleasure, D. Merry, and F. Gonzalez-Scarano. 1996. Induction of apoptosis by La Crosse virus infection and role of neuronal differentiation and human bcl-2 expression in its prevention. J. Virol. 70(8):5329-5335.
2. Schang, L.M., **J. Phillips**, P.A. Schaffer. 1998. Requirement for cellular cyclin-dependent kinases in herpes simplex virus replication and transcription. J. Virol. 72(7):5626-5637.
3. Leparc-Goffart, I., S.T. Hingley, M.M. Chua, **J. Phillips**, E. Lavi, and S.R. Weiss. 1998. Targeted recombination within the spike gene of murine coronavirus Mouse Hepatitis Virus-A59: Q159 is a determinant of hepatotropism. J. Virol. 72(12):9628-9636.
4. **Phillips JJ**, Chua MM, Lavi E, Weiss SR. Pathogenesis of chimeric MHV4/MHV-A59 recombinant viruses: the murine coronavirus spike protein is a major determinant of neurovirulence. J Virol. 1999 Sep; 73(9):7752-60.
5. De Groot L, JD Pinon, **J. Phillips**, E. Lavi, S.R. Weiss. 2001. Pathogenesis of fusion deficient recombinant mouse hepatitis viruses. Adv Exp Med Biol. 494:159-62.
6. Chua MM, **Phillips JJ**, Seo SH, Lavi E, Weiss SR. Mutation of the immunodominant CD8+ epitope in the MHV-4 spike protein. Adv Exp Med Biol. 2001; 494:121-5.
7. **Phillips JJ**, Weiss SR. MHV neuropathogenesis: the study of chimeric S genes and mutations in the hypervariable region. Adv Exp Med Biol. 2001; 494:115-9.
8. **Phillips JJ**, Chua M, Seo SH, Weiss SR. Multiple regions of the murine coronavirus spike glycoprotein influence neurovirulence. J Neurovirol. 2001 Oct; 7(5):421-31.
9. **Phillips JJ**, Chua MM, Rall GF, Weiss SR. Murine coronavirus spike glycoprotein mediates degree of viral spread, inflammation, and virus-induced immunopathology in the central nervous system. Virology. 2002 Sep 15; 301(1):109-20.

10. Tsai JC, de Groot L, Pinon JD, Iacono KT, **Phillips JJ**, Seo SH, Lavi E, Weiss SR. Amino acid substitutions within the heptad repeat domain 1 of murine coronavirus spike protein restrict viral antigen spread in the central nervous system. Virology. 2003 Aug 1; 312(2):369-80.

11. MacNamara KC, Chua MM, **Phillips JJ**, Weiss SR. Contributions of the viral genetic background and a single amino acid substitution in an immunodominant CD8+ T-cell epitope to murine coronavirus neurovirulence. J Virol. 2005 Jul; 79(14):9108-18.

12. **Phillips, J.J.**, B.S. Mahony, J.R. Siebert, T. Lalani, C.L. Fligner, R.P. Kapur. Dandy-Walker malformation complex: correlation between ultrasonographic diagnosis and postmortem neuropathology. Obstet Gynecol. 2006 Mar; 107(3):685-93.

13. Smith JS, Quiñones-Hinojosa A, **Phillips JJ**, Bollen AW, McDermott MW, Cha S. Limitations of diffusion-weighted imaging in distinguishing between a brain tumor and a central nervous system histoplasmoma. J Neurooncol. 2006 Sep; 79(2):217-8.

14. Josephson, S.A., D.R. Pillai, **J.J. Phillips**, D. Chou. Neurolisteriosis presenting as cervical myelitis in an immunocompetent patient. Neurology. 2006 Apr 11; 66(7):1122-3.

15. Yoon DJ, Kwan BH, Chao FC, Nicolaides TP, **Phillips JJ**, Lam GY, Mason AB, Weiss WA, Kamei DT. Intratumoral therapy of glioblastoma multiforme using genetically engineered transferrin for drug delivery. Cancer Res. 2010 Jun 1; 70(11):4520-7. PMID: 20460527. PMC2893299.

16. Swartling FJ, Grimmer MR, Hackett CS, Northcott PA, Fan QW, Goldenberg DD, Lau J, Masic S, Nguyen K, Yakovenko S, Zhe XN, Gilmer HC, Collins R, Nagaoka M, **Phillips JJ**, Jenkins RB, Tihan T, Vandenberg SR, James CD, Tanaka K, Taylor MD, Weiss WA, Chesler L. Pleiotropic role for MYCN in medulloblastoma. Genes Dev. 2010 May 15; 24(10):1059-72. PMID: 20478998. PMC2867210.

17. **Phillips JJ**, Misra A, Feuerstein BG, Kunwar S, Tihan T. Pituicytoma: characterization of a unique neoplasm by histology, immunohistochemistry, ultrastructure, and array-based comparative genomic hybridization. Arch Pathol Lab Med. 2010 Jul; 134(7):1063-9. PMID: 20586639. PMC3161118.

18. Srinivasan R, **Phillips JJ**, Vandenberg SR, Polley MY, Bourne G, Au A, Pirzkall A, Cha S, Chang SM, Nelson SJ. Ex vivo MR spectroscopic measure differentiates tumor from treatment effects in GBM. Neuro Oncol. 2010 Nov; 12(11):1152-61. PMID: 20647244. PMC3098023.

19. Littlepage LE, Sternlicht MD, Rougier N, **Phillips J**, Gallo E, Yu Y, Williams K, Brenot A, Gordon JI, Werb Z. Matrix metalloproteinases contribute distinct roles in neuroendocrine prostate carcinogenesis, metastasis, and angiogenesis progression. Cancer Res. 2010 Mar 15;70(6):2224-34. Epub 2010 Mar 9. PMID: 20215503. PMC2840052.

20. Kane AJ, Sughrue ME, Rutkowski MJ, **Phillips JJ**, Parsa AT. EMR-3: a potential mediator of invasive phenotypic variation in glioblastoma and novel therapeutic target. Neuroreport. 2010 Nov 17; 21(16):1018-22.

21. Namavar Y, Barth PG, Kasher PR, van Ruissen F, Brockmann K, Bernert G, Writzl K, Ventura K, Cheng EY, Ferriero DM, Basel-Vanagaite L, Eggens VR, Krägeloh-Mann I, De Meirleir L, King M, Graham JM Jr, von Moers A, Knoers N, Sztriha L, Korinthenberg R; PCH Consortium, Dobyns WB, Baas F, Poll-The BT. Clinical, neuroradiological and genetic

findings in pontocerebellar hypoplasia. Brain. 2011 Jan;134(Pt 1):143-56. Epub 2010 Oct 15. PubMed PMID: 20952379.

22. McKnight TR, Smith KJ, Chu PW, Chiu KS, Cloyd CP, Chang SM, **Phillips JJ**, Berger MS. Choline metabolism, proliferation, and angiogenesis in nonenhancing grades 2 and 3 astrocytoma. J Magn Reson Imaging. 2011 Apr; 33(4):808-16. PMID: 21448944. PMC3076678.

23. Park I, Bok R, Ozawa T, **Phillips JJ**, James CD, Vigneron DB, Ronen SM, Nelson SJ. Detection of early response to temozolomide treatment in brain tumors using hyperpolarized 13C MR metabolic imaging. J Magn Reson Imaging. 2011 Jun; 33(6):1284-90. PMID: 21590996.

24. Sugiarto S, Persson AI, Munoz EG, Waldhuber M, Lamagna C, Andor N, Hanecker P, Ayers-Ringler J, **Phillips J**, Siu J, Lim DA, Vandenberg S, Stallcup W, Berger MS, Bergers G, Weiss WA, Petritsch C. Asymmetry-defective oligodendrocyte progenitors are glioma precursors. Cancer Cell. 2011 Sep 13;20(3):328-40. PMID: 21907924; PMC3297490.

25. Goldhoff P, Clarke J, Smirnov I, Berger MS, Prados MD, James CD, Perry A, **Phillips JJ**. Clinical Stratification of Glioblastoma Based on Alterations in Retinoblastoma Tumor Suppressor Protein (RB1) and Association With the Proneural Subtype. J Neuropathol Exp Neurol. 2012 Jan; 71(1):83-9. PMID: 22157621. PMC3246124.

26. Park I, Hu S, Bok R, Ozawa T, Ito M, Mukherjee J, **Phillips JJ**, James CD, Pieper RO, Ronen SM, Vigneron DB, Nelson SJ. Evaluation of heterogeneous metabolic profile in an orthotopic human glioblastoma xenograft model using compressed sensing hyperpolarized 3D (13) C magnetic resonance spectroscopic imaging. Magn Reson Med. 2012 Jul 31. PMID: 22851374. PMC3630274.

27. **Phillips JJ**, Huillard E, Robinson AE, Ward A, Lum DH, Polley MY, Rosen SD, Rowitch DH, Werb Z. Heparan sulfate sulfatase SULF2 regulates PDGFRa signaling and growth in human and mouse malignant glioma. J Clin Invest. 2012 Mar 1; 122(3):911-22. PMID: 22293178. PMC3287216.

28. Lu KV, Chang JP, Parachoniak CA, Pandika MM, Aghi MK, Meyronet D, Isachenko N, Fouse SD, **Phillips JJ**, Cheresh DA, Park M, Bergers G. VEGF Inhibits Tumor Cell Invasion and Mesenchymal Transition through a MET/VEGFR2 Complex. Cancer Cell. 2012 Jul 10; 22(1):21-35.

29. Tihan T, Ersen A, Qaddoumi I, Sughayer MA, Tolunay S, Al-Hussaini M, **Phillips J**, Gupta N, Goldhoff P, Baneerjee A. Pathologic characteristics of pediatric intracranial pilocytic astrocytomas and their impact on outcome in 3 countries: a multi-institutional study. Am J Surg Pathol. 2012 Jan;36(1):43-55. PubMed PMID: 21989351.

30. Elkhaled A, Jalbert LE, **Phillips JJ**, Yoshihara HA, Parvataneni R, Srinivasan R, Bourne G, Berger MS, Chang SM, Cha S, Nelson SJ. Magnetic Resonance of 2-Hydroxyglutarate in IDH1-Mutated Low-Grade Gliomas. Sci Transl Med. 2012 Jan 11; 4(116):116ra5.

31. Engler JR, Robinson AE, Smirnov I, Hodgson JG, Berger MS, Gupta N, James CD, Molinaro A, **Phillips JJ**. Increased microglia/macrophage gene expression in a subset of adult and pediatric astrocytomas. PLoS One. 2012; 7(8):e43339. PMID: 22937035. PMC3425586.

32. Huillard E, Hashizume R, **Phillips JJ**, Griveau A, Ihrie RA, Aoki Y, Nicolaides T, Perry A, Waldman T, McMahon M, Weiss WA, Petritsch C, James CD, Rowitch DH. Cooperative

interactions of BRAFV600E kinase and CDKN2A locus deficiency in pediatric malignant astrocytoma as a basis for rational therapy. Proc Natl Acad Sci U S A. 2012 May 14. PMID 22586120. PMC3365162.

33. Swartling FJ, Savov V, Persson AI, Chen J, Hackett CS, Northcott PA, Grimmer MR, Lau J, Chesler L, Perry A, **Phillips JJ**, Taylor MD, Weiss WA. Distinct Neural Stem Cell Populations Give Rise to Disparate Brain Tumors in Response to N-MYC. Cancer Cell. 2012 May 25; 21(5):601-13. PMID: 22624711. PMC3360885.

34. Mueller S, **Phillips J**, Onar-Thomas A, Romero E, Zheng S, Wiencke JK, McBride SM, Cowdrey C, Prados MD, Weiss WA, Berger MS, Gupta N, Haas-Kogan DA. PTEN promoter methylation and activation of the PI3K/Akt/mTOR pathway in pediatric gliomas and influence on clinical outcome. Neuro Oncol. 2012 Sep;14(9):1146-52. doi: 10.1093/neuonc/nos140. Epub 2012 Jun 29. PubMed PMID: 22753230.

35. Barajas RF, **Phillips JJ**, Parvataneni R, Molinaro A, Essock-Burns E, Bourne G, Parsa AT, Aghi MK, McDermott MW, Berger MS, Cha S, Chang SM, Nelson SJ. Regional variation in histopathologic features of tumor specimens from treatment-naive glioblastoma correlates with anatomic and physiologic MR Imaging. Neuro Oncol. 2012 Jul; 14(7):942-54.

36. Hashizume R, Smirnov I, Liu S, **Phillips JJ**, Hyer J, McKnight TR, Wendland M, Prados M, Banerjee A, Nicolaides T, Mueller S, James CD, Gupta N. Characterization of a diffuse intrinsic pontine glioma cell line: implications for future investigations and treatment. J Neurooncol. 2012 Sep 17.

37. Wiencke JK, Accomando WP, Zheng S, Patoka J, Dou X, **Phillips JJ**, Hsuang G, Christensen BC, Houseman EA, Koestler DC, Bracci P, Wiemels JL, Wrensch M, Nelson HH, Kelsey KT. Epigenetic biomarkers of T-cells in human glioma. Epigenetics. 2012 Dec 1; 7(12):1391-402. PMID 23108258. PMC3528694.

38. Essock-Burns E, **Phillips JJ**, Molinaro AM, Lupo JM, Cha S, Chang SM, Nelson SJ. Comparison of DSC-MRI post-processing techniques in predicting microvascular histopathology in patients newly diagnosed with GBM. J Magn Reson Imaging. 2013 Aug; 38(2):388-400. PMID: 23281184. PMCID: PMC3711964

39. Solomon DA, Kim JS, Bondaruk J, Shariat SF, Wang ZF, Elkahloun AG, Ozawa T, Gerard J, Zhuang D, Zhang S, Navai N, Siefker-Radtke A, **Phillips JJ**, Robinson BD, Rubin MA, Volkmer B, Hautmann R, Küfer R, Hogendoorn PC, Netto G, Theodorescu D, James CD, Czerniak B, Miettinen M, Waldman T. Frequent truncating mutations of STAG2 in bladder cancer. Nat Genet. 2013 Dec; 45(12):1428-30. PMID: 24121789

40. Chaumeil MM, Larson PE, Yoshihara HA, Danforth OM, Vigneron DB, Nelson SJ, Pieper RO, **Phillips JJ**, Ronen SM. Non-invasive in vivo assessment of IDH1 mutational status in glioma. Nat Commun. 2013; 4:2429. PMID: 24019001. PMCID: PMC3908661

41. Wade A, Robinson AE, Engler JR, Petritsch C, James CD, **Phillips JJ**. Proteoglycans and their roles in brain cancer. FEBS J. 2013 May; 280(10):2399-417. PMID: 23281850. PMCID: PMC3644380

42. Mukherjee J, **Phillips JJ**, Zheng S, Wiencke J, Ronen SM, Pieper RO. Pyruvate kinase m2 expression, but not pyruvate kinase activity, is up-regulated in a grade-specific manner in human glioma. PLoS One. 2013; 8(2):e57610. PMID: 23451252. PMC3581484.

43. **Phillips JJ**, Aranda D, Ellison DW, Judkins AR, Croul SE, Brat DJ, Ligon KL, Horbinski C, Venneti S, Zadeh G, Santi M, Zhou S, Appin CL, Sioletic S, Sullivan LM, Martinez-Lage M,

Robinson AE, Yong WH, Cloughesy T, Lai A, Phillips HS, Marshall R, Mueller S, Haas-Kogan DA, Molinaro AM, Perry A. PDGFRA amplification is common in pediatric and adult high-grade astrocytomas and identifies a poor prognostic group in IDH1 mutant glioblastoma. Brain Pathol. 2013 Sep; 23(5):565-73. PMID: 23438035. PMCID: PMC3715570

44. Barajas RF Jr, Hess CP, **Phillips JJ**, Von Morze CJ, Yu JP, Chang SM, Nelson SJ, McDermott MW, Berger MS, Cha S. Super-Resolution Track Density Imaging of Glioblastoma: Histopathologic Correlation. AJNR Am J Neuroradiol. 2013 Feb 14.

45. Reis GF, Bloomer MM, Perry A, **Phillips JJ**, Grenert JP, Karnezis AN, Tihan T. Pilocytic astrocytomas of the optic nerve and their relation to pilocytic astrocytomas elsewhere in the central nervous system. Mod Pathol. 2013 Oct; 26(10):1279-87. PMID: 23702730.

46. Swartling FJ, Bolin S, **Phillips JJ**, Persson AI. Signals that regulate the oncogenic fate of neural stem cells and progenitors. Exp Neurol. 2013 Jan 31. doi:pii: S0014-4886(13)00040-X. 10.1016/j.expneurol.2013.01.027.

47. DeLance AR, Safaee M, Oh MC, Clark AJ, Kaur G, Sun MZ, Bollen AW, **Phillips JJ**, Parsa AT. Tuberculoma of the central nervous system. J Clin Neurosci. 2013 Oct; 20(10):1333-41. PMID: 23768968.

48. Venneti S, Felicella MM, Coyne T, **Phillips JJ**, Gorovets D, Huse JT, Kofler J, Lu C, Tihan T, Sullivan LM, Santi M, Judkins AR, Perry A, Thompson CB. Histone 3 lysine 9 trimethylation is differentially associated with isocitrate dehydrogenase mutations in oligodendrogliomas and high-grade astrocytomas. J Neuropathol Exp Neurol. 2013 Apr;72(4):298-306. doi: 10.1097/NEN.0b013e3182898113. PubMed PMID: 23481705; PubMed Central PMCID: PMC3615673.

49. Abedalthagafi M, **Phillips JJ**, Kim GE, Mueller S, Haas-Kogen DA, Marshall RE, Croul SE, Santi MR, Cheng J, Zhou S, Sullivan LM, Martinez-Lage M, Judkins AR, Perry A. The alternative lengthening of telomere phenotype is significantly associated with loss of ATRX expression in high-grade pediatric and adult astrocytomas: a multi-institutional study of 214 astrocytomas. Mod Pathol. 2013 Nov; 26(11):1425-32. PMID: 23765250.

50. Sun MZ, Kim JM, Oh MC, Safaee M, Kaur G, Clark AJ, Bloch O, Ivan ME, Kaur R, Oh T, Fouse SD, **Phillips JJ**, Berger MS, Parsa AT. Na+/K+-ATPase β2-subunit (AMOG) expression abrogates invasion of glioblastoma-derived brain tumor-initiating cells. Neuro Oncol. 2013 Nov; 15(11):1518-31. PMID: 23887941. PMCID: PMC3813412

51. Davies J, Robinson AE, Cowdrey C, Mummaneni P, Ducker GS, Shokat KM, Bollen A, Hann B, **Phillips JJ**. Generation of a patient-derived chordoma xenograft and characterization of the phospho-proteome in a recurrent chordoma. J Neurosurg. 2014 Feb;120(2):331-6. doi: 10.3171/2013.10.JNS13598. Epub 2013 Nov 29. PubMed PMID: 24286145. PMCID In Process.

52. Shao C, Shi X, **Phillips JJ**, Zaia J. Mass spectral profiling of glycosaminoglycans from histological tissue surfaces. Anal Chem. 2013 Nov 19;85(22):10984-91. doi: 10.1021/ac402517s. Epub 2013 Oct 29. PubMed PMID: 24099043; PubMed Central PMCID: PMC3872031.

53. Dahiya S, Emnett RJ, Haydon DH, Leonard JR, **Phillips JJ**, Perry A, Gutmann DH. BRAF-V600E mutation in pediatric and adult glioblastoma. Neuro Oncol. 2014 Jan;16(2):318-9. doi: 10.1093/neuonc/not146. Epub 2013 Dec 4. PubMed PMID: 24311634; PubMed Central PMCID: PMC3895374.

54. Shih DJ, Northcott PA, Remke M, Korshunov A, Ramaswamy V, Kool M, Luu B, Yao Y, Wang X, Dubuc AM, Garzia L, Peacock J, Mack SC, Wu X, Rolider A, Morrissy AS, Cavalli FM, Jones DT, Zitterbart K, Faria CC, Schüller U, Kren L, Kumabe T, Tominaga T, Shin Ra Y, Garami M, Hauser P, Chan JA, Robinson S, Bognár L, Klekner A, Saad AG, Liau LM, Albrecht S, Fontebasso A, Cinalli G, De Antonellis P, Zollo M, Cooper MK, Thompson RC, Bailey S, Lindsey JC, Di Rocco C, Massimi L, Michiels EM, Scherer SW, **Phillips JJ**, Gupta N, Fan X, Muraszko KM, Vibhakar R, Eberhart CG, Fouladi M, Lach B, Jung S, Wechsler-Reya RJ, Fèvre-Montange M, Jouvet A, Jabado N, Pollack IF, Weiss WA, Lee JY, Cho BK, Kim SK, Wang KC, Leonard JR, Rubin JB, de Torres C, Lavarino C, Mora J, Cho YJ, Tabori U, Olson JM, Gajjar A, Packer RJ, Rutkowski S, Pomeroy SL, French PJ, Kloosterhof NK, Kros JM, Van Meir EG, Clifford SC, Bourdeaut F, Delattre O, Doz FF, Hawkins CE, Malkin D, Grajkowska WA, Perek-Polnik M, Bouffet E, Rutka JT, Pfister SM, Taylor MD. Cytogenetic Prognostication Within Medulloblastoma Subgroups. J Clin Oncol. 2014 Feb 18. [Epub ahead of print] PubMed PMID: 24493713.

55. Mack SC, Witt H, Piro RM, Gu L, Zuyderduyn S, Stütz AM, Wang X, Gallo M, Garzia L, Zayne K, Zhang X, Ramaswamy V, Jäger N, Jones DT, Sill M, Pugh TJ, Ryzhova M, Wani KM, Shih DJ, Head R, Remke M, Bailey SD, Zichner T, Faria CC, Barszczyk M, Stark S, Seker-Cin H, Hutter S, Johann P, Bender S, Hovestadt V, Tzaridis T, Dubuc AM, Northcott PA, Peacock J, Bertrand KC, Agnihotri S, Cavalli FM, Clarke I, Nethery-Brokx K, Creasy CL, Verma SK, Koster J, Wu X, Yao Y, Milde T, Sin-Chan P, Zuccaro J, Lau L, Pereira S, Castelo-Branco P, Hirst M, Marra MA, Roberts SS, Fults D, Massimi L, Cho YJ, Van Meter T, Grajkowska W, Lach B, Kulozik AE, von Deimling A, Witt O, Scherer SW, Fan X, Muraszko KM, Kool M, Pomeroy SL, Gupta N, **Phillips J**, Huang A, Tabori U, Hawkins C, Malkin D, Kongkham PN, Weiss WA, Jabado N, Rutka JT, Bouffet E, Korbel JO, Lupien M, Aldape KD, Bader GD, Eils R, Lichter P, Dirks PB, Pfister SM, Korshunov A, Taylor MD. Epigenomic alterations define lethal CIMP-positive ependymomas of infancy. Nature. 2014 Feb 27;506(7489):445-50. doi: 10.1038/nature13108. Epub 2014 Feb 19. PubMed PMID: 24553142; PubMed Central PMCID: PMC4174313.

56. Clarke JL, Molinaro AM, **Phillips JJ**, Butowski NA, Chang SM, Perry A, Costello JF, Desilva AA, Rabbitt JE, Prados MD. A single-institution phase II trial of radiation, temozolomide, erlotinib, and bevacizumab for initial treatment of glioblastoma. Neuro Oncol. 2014 Mar 16. [Epub ahead of print] PubMed PMID: 24637230.

57. Sun MZ, Oh MC, Ivan ME, Kaur G, Safaee M, Kim JM, **Phillips JJ**, Auguste KI, Parsa AT. Current management of choroid plexus carcinomas. Neurosurg Rev. 2014 Apr; 37(2):179-92. PMID: 24068529.

58. Elkhaled A, Jalbert L, Constantin A, Yoshihara HA, **Phillips JJ**, Molinaro AM, Chang SM, Nelson SJ. Characterization of metabolites in infiltrating gliomas using ex vivo (1) H high-resolution magic angle spinning spectroscopy. NMR Biomed. 2014 May; 27(5):578-93. PMID: 24596146. PMCID: PMC3983568

59. Wade A, McKinney A, **Phillips JJ**. Matrix regulators in neural stem cell functions. Biochim Biophys Acta. 2014 Aug; 1840(8):2520-5. PMID: 24447567. PMCID: PMC4074566

60. Chaumeil MM, Larson PE, Woods SM, Cai L, Eriksson P, Robinson AE, Lupo JM, Vigneron DB, Nelson SJ, Pieper RO, **Phillips JJ**, Ronen SM. Hyperpolarized [1-13C] glutamate: a metabolic imaging biomarker of IDH1 mutational status in glioma. Cancer Res. 2014 May 29. pii: canres.0680.2014. PubMed PMID: 24876103.

61. Spence T, Sin-Chan P, Picard D, Barszczyk M, Hoss K, Lu M, Kim SK, Ra YS, Nakamura H, Fangusaro J, Hwang E, Kiehna E, Toledano H, Wang Y, Shi Q, Johnston D, Michaud J,

La Spina M, Buccoliero AM, Adamek D, Camelo-Piragua S, Peter Collins V, Jones C, Kabbara N, Jurdi N, Varlet P, Perry A, Scharnhorst D, Fan X, Muraszko KM, Eberhart CG, Ng HK, Gururangan S, Van Meter T, Remke M, Lafay-Cousin L, Chan JA, Sirachainan N, Pomeroy SL, Clifford SC, Gajjar A, Shago M, Halliday W, Taylor MD, Grundy R, Lau CC, **Phillips J**, Bouffet E, Dirks PB, Hawkins CE, Huang A. CNS-PNETs with C19MC amplification and/or LIN28 expression comprise a distinct histogenetic diagnostic and therapeutic entity. Acta Neuropathol. 2014 Aug;128(2):291-303. doi: 10.1007/s00401-014-1291-1. PubMed PMID: 24839957; PubMed Central PMCID: PMC4159569.

62. Venneti S, Santi M, Felicella MM, Yarilin D, **Phillips JJ**, Sullivan LM, Martinez D, Perry A, Lewis PW, Thompson CB, Judkins AR. A sensitive and specific histopathologic prognostic marker for H3F3A K27M mutant pediatric glioblastomas. Acta Neuropathol. 2014 Nov;128(5):743-53. doi: 10.1007/s00401-014-1338-3. Epub 2014 Sep 9. PubMed PMID: 25200322; PubMed Central PMCID: PMC4201755.

63. Izquierdo-Garcia JL, Cai LM, Chaumeil MM, Eriksson P, Robinson AE, Pieper RO, **Phillips JJ**, Ronen SM. Glioma Cells with the IDH1 Mutation Modulate Metabolic Fractional Flux through Pyruvate Carboxylase. PLoS One. 2014; 2014 Sep 22;9(9):e108289. PMID: 25243911. PMCID: PMC4171511

64. Ivan ME, Safaee M, Oh T, Clark AJ, Sun MZ, Kim J, Bloch O, Jahangiri A, **Phillips JJ**, Aghi MK, Parsa AT. Epidermal growth factor-like module containing mucin-like hormone receptor 2 expression in gliomas. J Neurooncol. 2015 Jan; 121(1):53-61. PMID: 25200831

65. Prados MD, Byron SA, Tran NL, **Phillips JJ**, Molinaro AM, Ligon KL, Wen PY, Kuhn JG, Mellinghoff IK, de Groot JF, Colman H, Cloughesy TF, Chang SM, Ryken TC, Tembe WD, Kiefer JA, Berens ME, Craig DW, Carpten JD, Trent JM. Toward precision medicine in glioblastoma: the promise and the challenges. Neuro Oncol. 2015 Aug; 17(8):1051-63. PMID: 25934816. PMCID: PMC4490873

66. **Phillips J**, Tihan T, Fuller G. Practical molecular pathology and histopathology of embryonal tumors. Surg Pathol Clin. 2015 Mar; 8(1):73-88. PMID: 25783823.

67. Solomon DA, Wood MD, Tihan T, Bollen AW, Gupta N, **Phillips JJ**, Perry A. Diffuse Midline Gliomas with Histone H3-K27M Mutation: A Series of 47 Cases Assessing the Spectrum of Morphologic Variation and Associated Genetic Alterations. Brain Pathol. 2015 Oct 30. PMID: 26517431

68. Wade A, Engler JR, Tran VM, **Phillips JJ**. Measuring sulfatase expression and invasion in glioblastoma. Methods Mol Biol. 2015; 1229:507-16. PMID: 25325976.

69. Lerner RG, Grossauer S, Kadkhodaei B, Meyers I, Sidorov M, Koeck K, Hashizume R, Ozawa T, **Phillips JJ**, Berger MS, Nicolaides T, James CD, Petritsch CK. Targeting a Plk1-Controlled Polarity Checkpoint in Therapy-Resistant Glioblastoma-Propagating Cells. Cancer Res. 2015 Dec 15; 75(24):5355-66. PMID: 26573800. PMCID: PMC4698003

70. Reis GF, Pekmezci M, Hansen HM, Rice T, Marshall RE, Molinaro AM, **Phillips JJ**, Vogel H, Wiencke JK, Wrensch MR, Walsh KM, Perry A. CDKN2A Loss Is Associated With Shortened Overall Survival in Lower-Grade (World Health Organization Grades II-III) Astrocytomas. J Neuropathol Exp Neurol. 2015 May; 74(5):442-52. PMID: 25853694. PMCID: PMC4397174

71. Bakhoum SF, Kabeche L, Wood MD, Laucius CD, Qu D, Laughney AM, Reynolds GE, Louie RJ, **Phillips J**, Chan DA, Zaki BI, Murnane JP, Petritsch C, Compton DA. Numerical

chromosomal instability mediates susceptibility to radiation treatment. Nat Commun. 2015 Jan 21;6:5990. doi: 10.1038/ncomms6990. PubMed PMID: 25606712.

72. Singer MS, **Phillips JJ**, Lemjabbar-Alaoui H, Wang YQ, Wu J, Goldman R, Rosen SD. SULF2, a heparan sulfate endosulfatase, is present in the blood of healthy individuals and increases in cirrhosis. Clin Chim Acta. 2015 Feb 2;440:72-8. doi: 10.1016/j.cca.2014.10.038. Epub 2014 Oct 31. PubMed PMID: 25444749; PubMed Central PMCID: PMC4305470.

73. Lemjabbar-Alaoui H, McKinney A, Yang YW, Tran VM, **Phillips JJ**. Glycosylation alterations in lung and brain cancer. Adv Cancer Res. 2015;126:305-44. doi: 10.1016/bs.acr.2014.11.007. Epub 2015 Feb 7. PubMed PMID: 25727152.

74. Izquierdo-Garcia JL, Viswanath P, Eriksson P, Chaumeil MM, Pieper RO, **Phillips JJ**, Ronen SM. Metabolic Reprogramming in Mutant IDH1 Glioma Cells. PLoS One. 2015 Feb 23;10(2):e0118781. doi: 10.1371/journal.pone.0118781. eCollection 2015. PubMed PMID: 25706986; PubMed Central PMCID: PMC4338038.

75. Safaee M, Fakurnejad S, Bloch O, Clark AJ, Ivan ME, Sun MZ, Oh T, **Phillips JJ**, Parsa AT. Proportional Upregulation of CD97 Isoforms in Glioblastoma and Glioblastoma-Derived Brain Tumor Initiating Cells. PLoS One. 2015 Feb 25;10(2):e0111532. doi: 10.1371/journal.pone.0111532. eCollection 2015. PubMed PMID: 25714433; PubMed Central PMCID: PMC4340952.

76. Prados MD, Byron SA, Tran NL, **Phillips JJ**, Molinaro AM, Ligon KL, Wen PY, Kuhn JG, Mellinghoff IK, de Groot JF, Colman H, Cloughesy TF, Chang SM, Ryken TC, Tembe WD, Kiefer JA, Berens ME, Craig DW, Carpten JD, Trent JM. Toward precision medicine in glioblastoma: the promise and the challenges. Neuro Oncol. 2015 May 1. pii: nov031. Review. PubMed PMID: 25934816.

77. Mack SC, Agnihotri S, Bertrand KC, Wang X, Shih DJ, Witt H, Hill N, Zayne K, Barszczyk M, Ramaswamy V, Remke M, Thompson Y, Ryzhova M, Massimi L, Grajkowska W, Lach B, Gupta N, Weiss WA, Guha A, Hawkins C, Croul S, Rutka JT, Pfister SM, Korshunov A, Pekmezci M, Tihan T, **Philips JJ**, Jabado N, Zadeh G, Taylor MD. Spinal Myxopapillary Ependymomas Demonstrate a Warburg Phenotype. Clin Cancer Res. 2015 Aug 15;21(16):3750-8. PMID: 25957288; PubMed Central PMCID: PMC4537825.

78. Barajas RF Jr, **Phillips JJ**, Vandenberg SR, McDermott MW, Berger MS, Dillon WP, Cha S. Pro-angiogenic cellular and genomic expression patterns within glioblastoma influences dynamic susceptibility weighted perfusion MRI. Clin Radiol. 2015 Oct;70(10):1087-95. doi: 10.1016/j.crad.2015.03.006. Epub 2015 Jul 29. PubMed PMID: 26231469.

79. Solomon DA, Wood MD, Tihan T, Bollen AW, Gupta N, **Phillips JJ**, Perry A. Diffuse Midline Gliomas with Histone H3-K27M Mutation: A Series of 47 Cases Assessing the Spectrum of Morphologic Variation and Associated Genetic Alterations. Brain Pathol. 2015 Oct 30. doi: 10.1111/bpa.12336. PubMed PMID: 26517431.

80. Mazor T, Pankov A, Johnson BE, Hong C, Hamilton EG, Bell RJ, Smirnov IV, Reis GF, **Phillips JJ**, Barnes MJ, Idbaih A, Alentorn A, Kloezeman JJ, Lamfers ML, Bollen AW, Taylor BS, Molinaro AM, Olshen AB, Chang SM, Song JS, Costello JF. DNA Methylation and Somatic Mutations Converge on the Cell Cycle and Define Similar Evolutionary Histories in Brain Tumors. Cancer Cell. 2015 Sep 14;28(3):307-17. doi: 10.1016/j.ccell.2015.07.012. PubMed PMID: 26373278; PubMed Central PMCID: PMC4573399.

81. Lau D, Hervey-Jumper SL, Chang S, Molinaro AM, McDermott MW, **Phillips JJ**, Berger MS. A prospective Phase II clinical trial of 5-aminolevulinic acid to assess the correlation of intraoperative fluorescence intensity and degree of histologic cellularity during resection of high-grade gliomas. J Neurosurg. 2015 Nov 6:1-10. PubMed PMID: 26544781.

82. Lerner RG, Grossauer S, Kadkhodaei B, Meyers I, Sidorov M, Koeck K, Hashizume R, Ozawa T, **Phillips JJ**, Berger MS, Nicolaides T, James CD, Petritsch CK. Targeting a Plk1-Controlled Polarity Checkpoint in Therapy-Resistant Glioblastoma-Propagating Cells. Cancer Res. 2015 Dec 15;75(24):5355-66. doi: 10.1158/0008-5472.CAN-14-3689. Epub 2015 Nov 16. PubMed PMID: 26573800; PubMed Central PMCID: PMC4698003.

83. Bandopadhayay P, Ramkissoon LA, Jain P, Bergthold G, Wala J, Zeid R, Schumacher SE, Urbanski L, O'Rourke R, Gibson WJ, Pelton K, Ramkissoon SH, Han HJ, Zhu Y, Choudhari N, Silva A, Boucher K, Henn RE, Kang YJ, Knoff D, Paolella BR, Gladden-Young A, Varlet P, Pages M, Horowitz PM, Federation A, Malkin H, Tracy AA, Seepo S, Ducar M, Van Hummelen P, Santi M, Buccoliero AM, Scagnet M, Bowers DC, Giannini C, Puget S, Hawkins C, Tabori U, Klekner A, Bognar L, Burger PC, Eberhart C, Rodriguez FJ, Hill DA, Mueller S, Haas-Kogan DA, **Phillips JJ**, Santagata S, Stiles CD, Bradner JE, Jabado N, Goren A, Grill J, Ligon AH, Goumnerova L, Waanders AJ, Storm PB, Kieran MW, Ligon KL, Beroukhim R, Resnick AC. MYB-QKI rearrangements in angiocentric glioma drive tumorigenicity through a tripartite mechanism. Nat Genet. 2016 Mar;48(3):273-82. doi: 10.1038/ng.3500. Epub 2016 Feb 1. PubMed PMID: 26829751; PubMed Central PMCID: PMC4767685.

84. Radoul M, Chaumeil MM, Eriksson P, Wang AS, **Phillips JJ**, Ronen SM. MR Studies of Glioblastoma Models Treated with Dual PI3K/mTOR Inhibitor and Temozolomide:Metabolic Changes Are Associated with Enhanced Survival. Mol Cancer Ther. 2016 May; 15(5):1113-22. PMID: 26883274. PMCID: PMC4873419

85. Jones C, Karajannis MA, Jones DT, Kieran MW, Monje M, Baker SJ, Becher OJ, Cho YJ, Gupta N, Hawkins C, Hargrave D, Haas-Kogan DA, Jabado N, Li XN, Mueller S, Nicolaides T, Packer RJ, Persson AI, **Phillips JJ**, Simonds EF, Stafford JM, Tang Y, Pfister SM, Weiss WA. Pediatric high-grade glioma: biologically and clinically in need of new thinking. Neuro Oncol. 2016 Jun 9. pii: now101. PMID: 27282398.

86. Jalbert LE, Neill E, **Phillips JJ**, Lupo JM, Olson MP, Molinaro AM, Berger MS, Chang SM, Nelson SJ. Magnetic resonance analysis of malignant transformation in recurrent glioma. Neuro Oncol. 2016 Aug; 18(8):1169-79. PMID: 26911151. PMCID: PMC4933480

87. Mukherjee J, Ohba S, See WL, **Phillips JJ**, Molinaro AM, Pieper RO. PKM2 uses control of HuR localization to regulate p27 and cell cycle progression in human glioblastoma cells. Int J Cancer. 2016 Jul 1; 139(1):99-111. PMID: 26874904

88. Wahl M, **Phillips JJ**, Molinaro AM, Lin Y, Perry A, Haas-Kogan DA, Costello JF, Dayal M, Butowski N, Clarke JL, Prados M, Nelson S, Berger MS, Chang SM. Chemotherapy for adult low-grade gliomas: clinical outcomes by molecular subtype in a phase II study of adjuvant temozolomide. Neuro Oncol. 2016 Aug 29. PMID: 27571885.

89. Lal S, Peng KW, Steele MB, Jenks N, Ma H, Kohanbash G, **Phillips JJ**, Raffel C. Safety Study: Intraventricular Injection of a Modified Oncolytic Measles Virus into Measles-Immune, hCD46-Transgenic, IFNaRko Mice. Hum Gene Ther Clin Dev. 2016 Sep 7. PMID: 27604429

90. Barajas RF Jr, Butowski NA, **Phillips JJ**, Aghi MK, Berger MS, Chang SM, Cha S. The Development of Reduced Diffusion Following Bevacizumab Therapy Identifies Regions of Recurrent Disease in Patients with High-grade Glioma. Acad Radiol. 2016 Sep;23(9):1073-82. PMID: 27443507.

91. Sturm D, Orr BA, Toprak UH, Hovestadt V, Jones DT, Capper D, Sill M, Buchhalter I, Northcott PA, Leis I, Ryzhova M, Koelsche C, Pfaff E, Allen SJ, Balasubramanian G, Worst BC, Pajtler KW, Brabetz S, Johann PD, Sahm F, Reimand J, Mackay A, Carvalho DM, Remke M, **Phillips JJ**, Perry A, Cowdrey C, Drissi R, Fouladi M, Giangaspero F, Łastowska M, Grajkowska W, Scheurlen W, Pietsch T, Hagel C, Gojo J, Lötsch D, Berger W, Slavc I, Haberler C, Jouvet A, Holm S, Hofer S, Prinz M, Keohane C, Fried I, Mawrin C, Scheie D, Mobley BC, Schniederjan MJ, Santi M, Buccoliero AM, Dahiya S, Kramm CM, von Bueren AO, von Hoff K, Rutkowski S, Herold-Mende C, Frühwald MC, Milde T, Hasselblatt M, Wesseling P, Rößler J, Schüller U, Ebinger M, Schittenhelm J, Frank S, Grobholz R, Vajtai I, Hans V, Schneppenheim R, Zitterbart K, Collins VP, Aronica E, Varlet P, Puget S, Dufour C, Grill J, Figarella-Branger D, Wolter M, Schuhmann MU, Shalaby T, Grotzer M, van Meter T, Monoranu CM, Felsberg J, Reifenberger G, Snuderl M, Forrester LA, Koster J, Versteeg R, Volckmann R, van Sluis P, Wolf S, Mikkelsen T, Gajjar A, Aldape K, Moore AS, Taylor MD, Jones C, Jabado N, Karajannis MA, Eils R, Schlesner M, Lichter P, von Deimling A, Pfister SM, Ellison DW, Korshunov A, Kool M. New Brain Tumor Entities Emerge from Molecular Classification of CNS-PNETs. Cell. 2016 Feb 25;164(5):1060-72. doi: 10.1016/j.cell.2016.01.015. PubMed PMID: 26919435.

92. Wood MD, Reis GF, Reuss DE, **Phillips JJ**. Protein Analysis of Glioblastoma Primary and Posttreatment Pairs Suggests a Mesenchymal Shift at Recurrence. J Neuropathol Exp Neurol. 2016 Oct;75(10):925-935. PMID: 27539476.

93. Ge X, Gong H, Dumas K, Litwin J, **Phillips JJ**, Waisfisz Q, Weiss MM, Hendriks Y, Stuurman KE, Nelson SF, Grody WW, Lee H, Kwok PY, Shieh JT. Missense-depleted regions in population exomes implicate ras superfamily nucleotide-binding protein alteration in patients with brain malformation. NPJ Genom Med. 2016;1. pii: 16036. doi: 10.1038/npjgenmed.2016.36. Epub 2016 Oct 5. PMID: 28868155; PMCID: PMC5576364.

94. Lindberg OR, McKinney A, Engler JR, Koshkakaryan G, Gong H, Robinson AE, Ewald AJ, Huillard E, James CD, Molinaro AM, Shieh JT, **Phillips JJ**. GBM heterogeneity as a function of variable epidermal growth factor receptor variant III activity. Oncotarget. 2016 Oct 12. PMID: 27738329

95. Grossauer S, Koeck K, Murphy NE, Meyers ID, Daynac M, Truffaux N, Truong AY, Nicolaides TP, McMahon M, Berger MS, **Phillips JJ**, James CD, Petritsch CK. Concurrent MEK targeted therapy prevents MAPK pathway reactivation during BRAFV600E targeted inhibition in a novel syngeneic murine glioma model. Oncotarget. 2016 Nov 15;7(46):75839-75853. PMID: 27713119.

96. Vatsavayai SC, Yoon SJ, Gardner RC, Gendron TF, Vargas JN, Trujillo A, Pribadi M, **Phillips JJ**, Gaus SE, Hixson JD, Garcia PA, Rabinovici GD, Coppola G, Geschwind DH, Petrucelli L, Miller BL, Seeley WW. Timing and significance of pathological features in C9orf72 expansion-associated frontotemporal dementia. Brain. 2016 Oct 22. PMID: 27797809

97. Hu B, Wang Q, Wang YA, Hua S, Sauvé CG, Ong D, Lan ZD, Chang Q, Ho YW, Monasterio MM, Lu X, Zhong Y, Zhang J, Deng P, Tan Z, Wang G, Liao WT, Corley LJ, Yan H, Zhang J, You Y, Liu N, Cai L, Finocchiaro G, **Phillips JJ**, Berger MS, Spring DJ, Hu J, Sulman EP, Fuller GN, Chin L, Verhaak RG, DePinho RA. Epigenetic Activation of

WNT5A Drives Glioblastoma Stem Cell Differentiation and Invasive Growth. Cell. 2016 Nov 17;167(5):1281-1295.e18. PMID: 27863244.

98. Ohba S, Mukherjee J, Johannessen TC, Mancini A, Chow TT, Wood M, Jones L, Mazor T, Marshall RE, Viswanath P, Walsh KM, Perry A, Bell RJ, **Phillips JJ**, Costello JF, Ronen SM, Pieper RO. Mutant IDH1 Expression Drives TERT Promoter Reactivation as Part of the Cellular Transformation Process. Cancer Res. 2016 Nov 15;76(22):6680-6689. doi: 10.1158/0008-5472.CAN-16-0696. PMID: 27758882; PMCID: PMC5290072.

99. Kline CN, Joseph NM, Grenert JP, van Ziffle J, Talevich E, Onodera C, Aboian M, Cha S, Raleigh DR, Braunstein S, Torkildson J, Samuel D, Bloomer M, Campomanes AG, Banerjee A, Butowski N, Raffel C, Tihan T, Bollen AW, **Phillips JJ**, Korn WM, Yeh I, Bastian BC, Gupta N, Mueller S, Perry A, Nicolaides T, Solomon DA. Targeted next-generation sequencing of pediatric neuro-oncology patients improves diagnosis, identifies pathogenic germline mutations, and directs targeted therapy. Neuro Oncol. 2016 Nov 14 (epub). 2017 05 01; 19(5):699-709. PMID: 28453743. PMCID: PMC5464451.

100. Han SJ, Reis G, Kohanbash G, Shrivastav S, Magill ST, Molinaro AM, McDermott MW, Theodosopoulos PV, Aghi MK, Berger MS, Butowski NA, Barani I, **Phillips JJ**, Perry A, Okada H. Expression and prognostic impact of immune modulatory molecule PD-L1 in meningioma. J Neurooncol. 2016 Dec; 130(3):543-552. PMID: 27624915

101. **Phillips JJ**, Gong H, Chen K, Joseph NM, van Ziffle J, Jin LW, Bastian BC, Bollen AW, Perry A, Nicolaides T, Solomon DA, Shieh JT. Activating NRF1-BRAF and ATG7-RAF1 fusions in anaplastic pleomorphic xanthoastrocytoma without BRAF p.V600E mutation. Acta Neuropathol. 2016 Nov;132(5):757-760. PMID: 27624885; PMCID: PMC5074852.

102. Miroshnikova YA, Mouw JK, Barnes JM, Pickup MW, Lakins JN, Kim Y, Lobo K, Persson AI, Reis GF, McKnight TR, Holland EC, **Phillips JJ**, Weaver VM. Tissue mechanics promote IDH1-dependent HIF1α-tenascin C feedback to regulate glioblastoma aggression. Nat Cell Biol. 2016 Dec;18(12):1336-1345. PMID: 27820599.

103. Neill E, Luks T, Dayal M, **Phillips JJ**, Perry A, Jalbert LE, Cha S, Molinaro A, Chang SM, Nelson SJ. Quantitative multi-modal MR imaging as a non-invasive prognostic tool for patients with recurrent low-grade glioma. J Neurooncol. 2017 Jan 25. PMID: 28124178.

104. Jalbert LE, Elkhaled A, **Phillips JJ**, Neill E, Williams A, Crane JC, Olson MP, Molinaro AM, Berger MS, Kurhanewicz J, Ronen SM, Chang SM, Nelson SJ. Metabolic Profiling of IDH Mutation and Malignant Progression in Infiltrating Glioma. Sci Rep. 2017 Mar 22;7:44792. doi: 10.1038/srep44792. PMID: 28327577; PMCID: PMC5361089.

105. Fan Q, Aksoy O, Wong RA, Ilkhanizadeh S, Novotny CJ, Gustafson WC, Truong AY, Cayanan G, Simonds EF, Haas-Kogan D, **Phillips JJ**, Nicolaides T, Okaniwa M, Shokat KM, Weiss WA. A Kinase Inhibitor Targeted to mTORC1 Drives Regression in Glioblastoma. Cancer Cell. 2017 Mar 13;31(3):424-435.doi:10.1016/j.ccell.2017.01.014. PubMed PMID: 28292440; PMCID: PMC5386178.

106. Lin CA, Rhodes CT, Lin C, **Phillips JJ**, Berger MS. Comparative analyses identify molecular signature of MRI-classified SVZ-associated glioblastoma. Cell Cycle. 2017 Apr 18;16(8):765-775. doi: 10.1080/15384101.2017.1295186. Epub 2017 Feb 22. PubMed PMID: 28278055; PubMed Central PMCID: PMC5405724.

107. Wang Q, Hu B, Hu X, Kim H, Squatrito M, Scarpace L, deCarvalho AC, Lyu S, Li P, Li Y, Barthel F, Cho HJ, Lin YH, Satani N, Martinez-Ledesma E, Zheng S, Chang E, Sauvé CG, Olar A, Lan ZD, Finocchiaro G, **Phillips JJ**, Berger MS, Gabrusiewicz KR, Wang G,

Eskilsson E, Hu J, Mikkelsen T, DePinho RA, Muller F, Heimberger AB, Sulman EP, Nam DH, Verhaak RGW. Tumor Evolution of Glioma-Intrinsic Gene Expression Subtypes Associates with Immunological Changes in the Microenvironment. Cancer Cell. 2017 Jul 10;32(1):42-56.e6. doi:/> 10.1016/j.ccell.2017.06.003. PMID: 28697342.

108. Chan AK, Han SJ, Choy W, Beleford D, Aghi MK, Berger MS, Shieh JT, Bollen AW, Perry A, **Phillips JJ**, Butowski N, Solomon DA. Familial melanoma-astrocytoma syndrome: synchronous diffuse astrocytoma and pleomorphic xanthoastrocytoma in a patient with germline CDKN2A/B deletion and a significant family history. Clin Neuropathol. 2017 Sep/Oct;36(5):213-221. doi: 10.5414/NP301022. PMID: 28699883.

109. Wahl M, Chang SM, **Phillips JJ**, Molinaro AM, Costello JF, Mazor T, Alexandrescu S, Lupo JM, Nelson SJ, Berger M, Prados M, Taylor JW, Butowski N, Clarke JL, Haas-Kogan D. Probing the phosphatidylinositol 3-kinase/mammalian target of rapamycin pathway in gliomas: A phase 2 study of everolimus for recurrent adult low-grade gliomas. Cancer. 2017 Jul 31. doi: 10.1002/cncr.30909. PMID: 28759109.

110. Tran VM, Wade A, McKinney A, Chen K, Lindberg OR, Engler JR, Persson AI, **Phillips JJ**. Heparan Sulfate Glycosaminoglycans in Glioblastoma Promote Tumor Invasion. Mol Cancer Res. 2017 Aug 4. doi: 10.1158/1541-7786.MCR-17-0352. PMID: 28778876. Selected by journal to be highlighted.

111. Mazor T, Chesnelong C, Pankov A, Jalbert LE, Hong C, Hayes J, Smirnov IV, Marshall R, Souza CF, Shen Y, Viswanath P, Noushmehr H, Ronen SM, Jones SJM, Marra MA, Cairncross JG, Perry A, Nelson SJ, Chang SM, Bollen AW, Molinaro AM, Bengtsson H, Olshen AB, Weiss S, **Phillips JJ**, Luchman HA, Costello JF. Clonal expansion and epigenetic reprogramming following deletion or amplification of mutant IDH1. Proc Natl Acad Sci U S A. 2017 Oct 3;114(40):10743-10748. doi: 10.1073/pnas.1708914114. Epub 2017 Sep 15. PubMed PMID: 28916733; PubMed Central PMCID: PMC5635900.

112. Autry A, **Phillips JJ**, Maleschlijski S, Roy R, Molinaro AM, Chang SM, Cha S, Lupo JM, Nelson SJ. Characterization of Metabolic, Diffusion, and Perfusion Properties in GBM: Contrast-Enhancing versus Non-Enhancing Tumor. Transl Oncol. 2017 Sep 21;10(6):895-903. doi: 10.1016/j.tranon.2017.08.009. [Epub ahead of print] PubMed PMID: 28942218; PMCID: PMC5612804.

113. Tarpey PS, Behjati S, Young MD, Martincorena I, Alexandrov LB, Farndon SJ, Guzzo C, Hardy C, Latimer C, Butler AP, Teague JW, Shlien A, Futreal PA, Shah S, Bashashati A, Jamshidi F, Nielsen TO, Huntsman D, Baumhoer D, Brandner S, Wunder J, Dickson B, Cogswell P, Sommer J, **Phillips JJ**, Amary MF, Tirabosco R, Pillay N, Yip S, Stratton MR, Flanagan AM, Campbell PJ. The driver landscape of sporadic chordoma. Nat Commun. 2017 Oct 12;8(1):890. doi: 10.1038/s41467-017-01026-0. PubMed PMID: 29026114; PMCID: PMC5638846.

114. Lopez GY, Oberheim Bush NA, **Phillips JJ,** Bouffard JP, Moshel YA, Jaeckle K, Kleinschmidt-DeMasters BK, Rosenblum MK, Perry A, Solomon DA. Diffuse midline gliomas with subclonal H3F3A K27M mutation and mosaic H3.3 K27M mutant protein expression. Acta Neuropathol. 2017 Dec;134(6):961-963. doi:10.1007/ s00401-017-1780-0. Epub 2017 Oct 23. PubMed PMID: 29063183.

115. Hayes J, Yu Y, Jalbert LE, Mazor T, Jones LE, Wood MD, Walsh KM, Bengtsson H, Hong C, Oberndorfer S, Roetzer T, Smirnov IV, Clarke JL, Aghi MK, Chang SM, Nelson SJ, Woehrer A, **Phillips JJ**, Solomon DA, Costello JF. Genomic analysis of the origins and

evolution of multicentric diffuse lower-grade gliomas. NeuroOncol. 2017 Oct 25. doi: 10.1093/neuonc/nox205. [Epub ahead of print] PubMed PMID: 29077933.

116. Byron SA, Tran NL, Halperin RF, **Phillips JJ**, Kuhn JG, de Groot JF, Colman H, Ligon KL, Wen PY, Cloughesy TF, Mellinghoff IK, Butowski N, Taylor J, Clarke JL, Chang SM, Berger MS, Molinaro AM, Maggiora GM, Peng S, Nasser S, Liang WS, Trent JM, Berens ME, Carpten JD, Craig DW, Prados MD. Prospective feasibility trial for genomics-informed treatment in recurrent and progressive glioblastoma. Clin Cancer Res. 2017 Oct 26. pii: clincanres.0963.2017. doi:10.1158/1078-0432.CCR-17-0963. [Epub ahead of print] PubMed PMID: 29074604.

117. Goode B, Joseph NM, Stevers M, Van Ziffle J, Onodera C, Talevich E, Grenert JP, Yeh I, Bastian BC, **Phillips JJ**, Garg K, Rabban JT, Zaloudek C, Solomon DA. Adenomatoid tumors of the male and female genital tract are defined by TRAF7 mutations that drive aberrant NF-kB pathway activation. Mod Pathol. 2018 Apr;31(4):660-673. doi: 10.1038/modpathol.2017.153. Epub 2017 Nov 17. PubMed PMID: 29148537; PubMed Central PMCID: PMC5906165.

118. Viswanath P, Radoul M, Izquierdo-Garcia JL, Ong WQ, Luchman HA, Cairncross JG, Huang B, Pieper RO, **Phillips JJ**, Ronen SM. 2-Hydroxyglutarate-Mediated Autophagy of the Endoplasmic Reticulum Leads to an Unusual Downregulation of Phospholipid Biosynthesis in Mutant IDH1 Gliomas. Cancer Res. 2018 May 1;78(9):2290-2304. doi: 10.1158/0008-5472.CAN-17-2926. Epub 2018 Jan 22. PubMed PMID: 29358170; PubMed Central PMCID: PMC5932252.

119. Pekmezci M, Stevers M, **Phillips JJ**, Van Ziffle J, Bastian BC, Tsankova NM, Kleinschmidt-DeMasters BK, Rosenblum MK, Tihan T, Perry A, Solomon DA. Multinodular and vacuolating neuronal tumor of the cerebrum is a clonal neoplasm defined by genetic alterations that activate the MAP kinase signaling pathway. Acta Neuropathol. 2018 Mar;135(3):485-488. doi: 10.1007/s00401-018-1820-4. Epub 2018 Feb 10. PubMed PMID: 29428973.

120. Ilkhanizadeh S, Sabelström H, Miroshnikova YA, Frantz A, Zhu W, Idilli A, Lakins JN, Schmidt C, Quigley DA, Fenster T, Yuan E, Trzeciak JR, Saxena S, Lindberg OR, Mouw JK, Burdick JA, Magnitsky S, Berger MS, **Phillips JJ**, Arosio D, Sun D, Weaver VM, Weiss WA, Persson AI. Antisecretory Factor-Mediated Inhibition of Cell Volume Dynamics Produces Antitumor Activity in Glioblastoma. Mol Cancer Res. 2018 May;16(5):777-790. doi: 10.1158/1541-7786.MCR-17-0413. Epub 2018 Feb 5. PubMed PMID: 29431617; PubMed Central PMCID: PMC5932284.

121. Goode B, Mondal G, Hyun M, Ruiz DG, Lin YH, Van Ziffle J, Joseph NM, Onodera C, Talevich E, Grenert JP, Hewedi IH, Snuderl M, Brat DJ, Kleinschmidt-DeMasters BK, Rodriguez FJ, Louis DN, Yong WH, Lopes MB, Rosenblum MK, Butowski N, Tihan T, Bollen AW, **Phillips JJ**, Wiita AP, Yeh I, Jacobson MP, Bastian BC, Perry A, Solomon DA. A recurrent kinase domain mutation in PRKCA defines chordoid glioma of the third ventricle. Nat Commun. 2018 Feb 23;9(1):810. doi: 10.1038/s41467-018-02826-8. PubMed PMID: 29476136; PubMed Central PMCID: PMC5824822.

122. Vasudevan HN, Braunstein SE, **Phillips JJ**, Pekmezci M, Tomlin BA, Wu A, Reis GF, Magill ST, Zhang J, Feng FY, Nicholaides T, Chang SM, Sneed PK, McDermott MW, Berger MS, Perry A, Raleigh DR. Comprehensive Molecular Profiling Identifies FOXM1 as a Key Transcription Factor for Meningioma Proliferation. Cell Rep. 2018 Mar 27;22(13):3672-3683. doi: 10.1016/j.celrep.2018.03.013. PubMed PMID: 29590631.

123. Viswanath P, Radoul M, Izquierdo-Garcia JL, Luchman HA, Gregory Cairncross J, Pieper RO, **Phillips JJ**, Ronen SM. Mutant IDH1 gliomas downregulate phosphocholine and phosphoethanolamine synthesis in a 2-hydroxyglutarate-dependent manner. Cancer Metab. 2018 Apr 3;6:3. doi: 10.1186/s40170-018-0178-3. eCollection 2018. PubMed PMID: 29619216; PubMed Central PMCID: PMC5881177.

124. Griveau A, Seano G, Shelton SJ, Kupp R, Jahangiri A, Obernier K, Krishnan S, Lindberg OR, Yuen TJ, Tien AC, Sabo JK, Wang N, Chen I, Kloepper J, Larrouquere L, Ghosh M, Tirosh I, Huillard E, Alvarez-Buylla A, Oldham MC, Persson AI, Weiss WA, Batchelor TT, Stemmer-Rachamimov A, Suvà ML, **Phillips JJ**, Aghi MK, Mehta S, Jain RK, Rowitch DH. A Glial Signature and Wnt7 Signaling Regulate Glioma-Vascular Interactions and Tumor Microenvironment. Cancer Cell. 2018 May 14;33(5):874-889.e7. doi: 10.1016/j.ccell.2018.03.020. Epub 2018 Apr 19. PubMed PMID: 29681511.

125. Luks TL, McKnight TR, Jalbert LE, Williams A, Neill E, Lobo KA, Persson AI, Perry A, **Phillips JJ**, Molinaro AM, Chang SM, Nelson SJ. Relationship of In Vivo MR Parameters to Histopathological and Molecular Characteristics of Newly Diagnosed, Nonenhancing Lower-Grade Gliomas. Transl Oncol. 2018 Jun 5;11(4):941-949. doi: 10.1016/j.tranon.2018.05.005. [Epub ahead of print] PubMed PMID: 29883968; PubMed Central PMCID: PMC6041571

126. Lal S, Carrera D, **Phillips JJ**, Weiss WA, Raffel C. An oncolytic measles virus-sensitive Group 3 medulloblastoma model in immune-competent mice. Neuro Oncol. 2018 Jun 14. doi: 10.1093/neuonc/noy089. [Epub ahead of print] PubMed PMID: 29912438.

127. **Phillips JJ**, Gong H, Chen K, Joseph NM, van Ziffle J, Bastian BC, Grenert JP, Kline CN, Mueller S, Banerjee A, Nicolaides T, Gupta N, Berger MS, Lee HS, Pekmezci M, Tihan T, Bollen AW, Perry A, Shieh JTC, Solomon DA. The genetic landscape of anaplastic pleomorphic xanthoastrocytoma. Brain Pathol. 2018 Jul 27. doi: 10.1111/bpa.12639. PubMed PMID: 30051528.

128. Taylor JW, Parikh M, **Phillips JJ**, James CD, Molinaro AM, Butowski NA, Clarke JL, Oberheim-Bush NA, Chang SM, Berger MS, Prados M. Phase-2 trial of palbociclib in adult patients with recurrent RB1-positive glioblastoma. J Neurooncol. 2018 Nov;140(2):477-483. doi: 10.1007/s11060-018-2977-3. Epub 2018 Aug 27. PubMed PMID: 30151703; PubMed Central PMCID: PMC6239922.

129. López GY, Van Ziffle J, Onodera C, Grenert JP, Yeh I, Bastian BC, Clarke J, Oberheim Bush NA, Taylor J, Chang S, Butowski N, Banerjee A, Mueller S, Kline C, Torkildson J, Samuel D, Siongco A, Raffel C, Gupta N, Kunwar S, Mummaneni P, Aghi M, Theodosopoulos P, Berger M, **Phillips JJ**, Pekmezci M, Tihan T, Bollen AW, Perry A, Solomon DA. The genetic landscape of gliomas arising after therapeutic radiation. Acta Neuropathol. 2019 Jan;137(1):139-150. doi: 10.1007/s00401-018-1906-z. Epub 2018 Sep 8. PubMed PMID: 30196423.

130. Barnes JM, Kaushik S, Bainer RO, Sa JK, Woods EC, Kai F, Przybyla L, Lee M, Lee HW, Tung JC, Maller O, Barrett AS, Lu KV, Lakins JN, Hansen KC, Obernier K, Alvarez-Buylla A, Bergers G, **Phillips JJ**, Nam DH, Bertozzi CR, Weaver VM. A tension-mediated glycocalyx-integrin feedback loop promotes mesenchymal-like glioblastoma. Nat Cell Biol. 2018 Oct;20(10):1203-1214. doi: 10.1038/s41556-018-0183-3. Epub 2018 Sep 10. PubMed PMID: 30202050.

131. Sabelström H, Quigley DA, Fenster T, Foster DJ, Fuchshuber CAM, Saxena S, Yuan E, Li N, Paterno F, **Phillips JJ**, James CD, Norling B, Berger MS, Persson AI. High density is a

property of slow-cycling and treatment-resistant human glioblastoma cells. Exp Cell Res. 2019 May 1;378(1):76-86. doi: 10.1016/j.yexcr.2019.03.003. Epub 2019 Mar 5. PubMed PMID: 30844389.

132. Mueller S, Jain P, Liang WS, Kilburn L, Kline C, Gupta N, Panditharatna E, Magge SN, Zhang B, Zhu Y, Crawford JR, Banerjee A, Nazemi K, Packer RJ, Petritsch CK, Truffaux N, Roos A, Nasser S, **Phillips JJ**, Solomon D, Molinaro A, Waanders AJ, Byron SA, Berens ME, Kuhn J, Nazarian J, Prados M, Resnick AC. A pilot precision medicine trial for children with diffuse intrinsic pontine glioma-PNOC003: A report from the Pacific Pediatric Neuro-Oncology Consortium. Int J Cancer. 2019 Mar 12. doi: 10.1002/ijc.32258. PubMed PMID: 30861105.

133. Lee JC, Mazor T, Lao R, Wan E, Diallo AB, Hill NS, Thangaraj N, Wendelsdorf K, Samuel D, Kline CN, Banerjee A, Auguste K, Raffel C, Gupta N, Berger M, Raleigh DR, Shai A, **Phillips JJ**, Bollen AW, Tihan T, Perry A, Costello J, Solomon DA. Recurrent KBTBD4 small in-frame insertions and absence of DROSHA deletion or DICER1 mutation differentiate pineal parenchymal tumor of intermediate differentiation (PPTID) from pineoblastoma. Acta Neuropathol. 2019 Mar 14. doi: 10.1007/s00401-019-01990-5. PubMed PMID: 30877433.

134. Ferris SP, Velazquez Vega J, Aboian M, Lee JC, Van Ziffle J, Onodera C, Grenert JP, Saunders T, Chen YY, Banerjee A, Kline CN, Gupta N, Raffel C, Samuel D, Ruiz-Diaz I, Magaki S, Wilson D, Neltner J, Al-Hajri Z, **Phillips JJ**, Pekmezci M, Bollen AW, Tihan T, Schniederjan M, Cha S, Perry A, Solomon DA. High-grade neuroepithelial tumor with BCOR exon 15 internal tandem duplication-a comprehensive clinical, radiographic, pathologic, and genomic analysis. Brain Pathol. 2019 May 18. doi: 10.1111/bpa.12747. PubMed PMID: 31104347.

135. Huang M, Tailor J, Zhen Q, Gillmor AH, Miller ML, Weishaupt H, Chen J, Zheng T, Nash EK, McHenry LK, An Z, Ye F, Takashima Y, Clarke J, Ayetey H, Cavalli FMG, Luu B, Moriarity BS, Ilkhanizadeh S, Chavez L, Yu C, Kurian KM, Magnaldo T, Sevenet N, Koch P, Pollard SM, Dirks P, Snyder MP, Largaespada DA, Cho YJ, **Phillips JJ**, Swartling FJ, Morrissy AS, Kool M, Pfister SM, Taylor MD, Smith A, Weiss WA. Engineering Genetic Predisposition in Human Neuroepithelial Stem Cells Recapitulates Medulloblastoma Tumorigenesis. Cell Stem Cell. 2019 Jun 13. pii: S1934-5909(19)30217-6. doi: 10.1016/j.stem.2019.05.013. PubMed PMID: 31204176.

136. McKinney A, Lindberg OR, Engler JR, Chen KY, Kumar A, Gong H, Lu KV, Simonds EF, Cloughesy TF, Liau LM, Prados M, Bollen AW, Berger MS, Shieh JTC, James CD, Nicolaides TP, Yong WH, Lai A, Hegi ME, Weiss WA, **Phillips JJ**. Mechanisms of resistance to EGFR inhibition reveal metabolic vulnerabilities in human GBM. Mol Cancer Ther. 2019 Jul 3. pii: molcanther.1330.2018. doi: 10.1158/1535-7163.MCT-18-1330. [Epub ahead of print] PubMed PMID: 31270152. PMC6726545. Selected by journal to be highlighted.

137. Sloan EA, Cooney T, Oberheim Bush NA, Buerki R, Taylor J, Clarke JL, Torkildson J, Kline C, Reddy A, Mueller S, Banerjee A, Butowski N, Chang S, Mummaneni PV, Chou D, Tan L, Theodosopoulos P, McDermott M, Berger M, Raffel C, Gupta N, Sun PP, Li Y, Shah V, Cha S, Braunstein S, Raleigh DR, Samuel D, Scharnhorst D, Fata C, Guo H, Moes G, Kim JYH, Koschmann C, Van Ziffle J, Onodera C, Devine P, Grenert JP, Lee JC, Pekmezci M, **Phillips JJ**, Tihan T, Bollen AW, Perry A, Solomon DA. Recurrent non-canonical histone H3 mutations in spinal cord diffuse gliomas. Acta Neuropathol. 2019 Nov;138(5):877-881. doi: 10.1007/s00401-019-02072-2. Epub 2019 Sep 12. PMID: 31515627.

138. Wang L, Babikir H, Mueller S, Yagnik G, Shamardani K, Catalan F, Kohanbash G, Alvarado B, Di Lullo E, Kriegstein A, Shah S, Wadhwa H, Chang S, **Philips JJ**, Aghi M, and Diaz A. The phenotypes of proliferating glioblastoma cells reside on a single axis of variation. Cancer Discov. 2019 Dec;9(12):1708-1719. doi: 10.1158/2159-8290.CD-19-0329. Epub 2019 Sep 25. PMID:31554641.

139. Wong RA, Luo X, Lu M, An Z, Haas-Kogan DA, **Phillips JJ**, Shokat KM, Weiss WA, Fan QW. Cooperative Blockade of PKCα and JAK2 Drives Apoptosis in Glioblastoma./> Cancer Res. 2020 Feb 15;80(4):709-718. doi: 10.1158/0008-5472.CAN-18-2808. Epub 2019 Dec 5. PMID: 31806641.

140. Berens ME, Sood A, Barnholtz-Sloan JS, Graf JF, Cho S, Kim S, Kiefer J, Byron SA, Halperin RF, Nasser S, Adkins J, Cuyugan L, Devine K, Ostrom Q, Couce M, Wolansky L, McDonough E, Schyberg S, Dinn S, Sloan AE, Prados M, **Phillips JJ**, Nelson SJ, Liang WS, Al-Kofahi Y, Rusu M, Zavodszky MI, Ginty F. Multiscale, multimodal analysis of tumor heterogeneity in IDH1 mutant vs wild-type diffuse gliomas. PLoS One. 2019 Dec 27;14(12):e0219724. doi: 10.1371/journal.pone.0219724. eCollection 2019. PMID: 31881020.

141. Pekmezci M, **Phillips JJ**, Dirilenoglu F, Atasever-Rezanko T, Tihan T, Solomon D, Bollen A, Perry A. Loss of H3K27 trimethylation by immunohistochemistry is frequent in oligodendroglioma, IDH-mutant and 1p/19q-codeleted, but is neither a sensitive nor a specific marker. Acta Neuropathol. 2020 Mar;139(3):597-600. doi: 10.1007/s00401-019-02123-8. Epub 2020 Jan 7. PMID: 31912209.

142. Molinaro AM, Hervey-Jumper S, Morshed RA, Young J, Han SJ, Chunduru P, Zhang Y, **Phillips JJ**, Shai A, Lafontaine M, Crane J, Chandra A, Flanigan P, Jahangiri A, Cioffi G, Ostrom Q, Anderson JE, Badve C, Barnholtz-Sloan J, Sloan AE, Erickson BJ, Decker PA, Kosel ML, LaChance D, Eckel-Passow J, Jenkins R, Villanueva-Meyer J, Rice T, Wrensch M, Wiencke JK, Oberheim Bush NA, Taylor J, Butowski N, Prados M, Clarke J, Chang S, Chang E, Aghi M, Theodosopoulos P, McDermott M, Berger MS. Association of Maximal Extent of Resection of Contrast-Enhanced and Non-Contrast-Enhanced Tumor With Survival Within Molecular Subgroups of Patients With Newly Diagnosed Glioblastoma. JAMA Oncol. 2020 Feb 6. doi: 10.1001/jamaoncol.2019.6143. PMID: 32027343.

143. Sloan EA, Hilz S, Gupta R, Cadwell C, Ramani B, Hofmann J, Kline CN, Banerjee A, Reddy A, Oberheim Bush NA, Chang S, Braunstein S, Chang EF, Raffel C, Gupta N, Sun PP, Kim JYH, Moes G, Alva E, Li R, Bruggers CS, Alashari M, Wetmore C, Garg S, Dishop M, Van Ziffle J, Onodera C, Devine P, Grenert JP, Lee JC, **Phillips JJ**, Pekmezci M, Tihan T, Bollen AW, Berger MS, Costello JF, Perry A, Solomon DA. Gliomas arising in the setting of Li-Fraumeni syndrome stratify into two molecular subgroups with divergent clinicopathologic features. Acta Neuropathol. 2020 May;139(5):953-957. doi: 10.1007/s00401-020-02144-8. Epub 2020 Mar 10. PMID: 32157385.

144. Mathur R, Zhang Y, Grimmer MR, Hong C, Zhang M, Bollam S, Petrecca K, Clarke J, Berger MS, **Phillips JJ**, Oberheim-Bush NA, Molinaro AM, Chang SM, Costello JF. MGMT promoter methylation level in newly diagnosed low-grade glioma is a predictor of hypermutation at recurrence. Neuro Oncol. 2020 Mar 13. pii: noaa059. doi: 10.1093/neuonc/noaa059. PMID: 32166314.

145. Mondal G, Lee JC, Ravindranathan A, Villanueva-Meyer JE, Tran QT, Allen SJ, Barreto J, Gupta R, Doo P, Van Ziffle J, Onodera C, Devine P, Grenert JP, Samuel D, Li R, Metrock LK, Jin LW, Antony R, Alashari M, Cheshier S, Whipple NS, Bruggers C, Raffel C, Gupta N, Kline CN, Reddy A, Banerjee A, Hall MD, Mehta MP, Khatib Z, Maher OM, Brathwaite

C, Pekmezci M, **Phillips JJ**, Bollen AW, Tihan T, Lucas JT Jr, Broniscer A, Berger MS, Perry A, Orr BA, Solomon DA. Pediatric bithalamic gliomas have a distinct epigenetic signature and frequent EGFR exon 20 insertions resulting in potential sensitivity to targeted kinase inhibition. Acta Neuropathol. 2020 Apr 17. doi: 10.1007/s00401-020-02155-5. PMID: 32303840.

146. Cluceru J, Nelson SJ, Wen Q, **Phillips JJ**, Shai A, Molinaro AM, Alcaide-Leon P, Olson MP, Nair D, LaFontaine M, Chunduru P, Villanueva-Meyer JE, Cha S, Chang SM, Berger MS, Lupo JM. Recurrent tumor and treatment-induced effects have different MR signatures in contrast enhancing and non-enhancing lesions of high-grade gliomas. Neuro Oncol. 2020 Apr 22. pii: noaa094. doi: 10.1093/neuonc/noaa094. PMID: 32319527.

147. Blomquist MR, Ensign SF, D'Angelo F, **Phillips JJ**, Ceccarelli M, Peng S, Halperin RF, Caruso FP, Garofano L, Byron SA, Liang WS, Craig DW, Carpten JD, Prados MD, Trent JM, Berens ME, Iavarone A, Dhruv H, Tran NL. Temporospatial genomic profiling in glioblastoma identifies commonly altered core pathways underlying tumor progression. Neurooncol Adv. 2020 Jun 19;2(1):vdaa078. doi: 10.1093/noajnl/vdaa078. PMID: 32743548; PMCID: PMC7388612.

148. Lucas CG, Gupta R, Doo P, Lee JC, Cadwell CR, Ramani B, Hofmann JW, Sloan EA, Kleinschmidt-DeMasters BK, Lee HS, Wood MD, Grafe M, Born D, Vogel H, Salamat S, Puccetti D, Scharnhorst D, Samuel D, Cooney T, Cham E, Jin LW, Khatib Z, Maher O, Chamyan G, Brathwaite C, Bannykh S, Mueller S, Kline CN, Banerjee A, Reddy A, Taylor JW, Clarke JL, Oberheim Bush NA, Butowski N, Gupta N, Auguste KI, Sun PP, Roland JL, Raffel C, Aghi MK, Theodosopoulos P, Chang E, Hervey-Jumper S, **Phillips JJ**, Pekmezci M, Bollen AW, Tihan T, Chang S, Berger MS, Perry A, Solomon DA. Comprehensive analysis of diverse low-grade neuroepithelial tumors with FGFR1 alterations reveals a distinct molecular signature of rosette-forming glioneuronal tumor. Acta Neuropathol Commun. 2020 Aug 28;8(1):151. doi: 10.1186/s40478-020-01027-z. PMID: 32859279; PMCID: PMC7456392.

149. Jones LE, Hilz S, Grimmer MR, Mazor T, Najac C, Mukherjee J, McKinney A, Chow T, Pieper RO, Ronen SM, Chang SM, **Phillips JJ**, Costello JF. Patient-derived cells from recurrent tumors that model the evolution of IDH-mutant glioma. Neurooncol Adv. 2020 Jul 16;2(1):vdaa088. doi: 10.1093/noajnl/vdaa088. PMID: 32904945; PMCID: PMC7462278. Format:

150. Ohkawa Y, Wade A, Lindberg OR, Chen KY, Tran VM, Brown SJ, Kumar A, Kalita M, James CD, **Phillips JJ**. Heparan sulfate synthesized by Ext1 regulates receptor tyrosine kinase signaling and promotes resistance to EGFR inhibitors in GBM. Mol Cancer Res. 2020 Oct 7:molcanres.0420.2020. doi: 10.1158/1541-7786.MCR-20-0420. PMID: 33028660.

REVIEW ARTICLES

1. **Phillips JJ**. Novel therapeutic targets in the brain tumor microenvironment. Oncotarget. 2012; 3(5):568-75. PMID: 22643827. PMC3388186.

BOOKS AND CHAPTERS

1. Anders I. Persson, QiWen Fan, **Joanna J. Phillips** and William A. Weiss. "Chapter 40: Glioma." Neurobiology of Disease. Sid Gilman, ed. 2nd edition. 2006.

OTHER PUBLICATIONS

1. Molinaro AM, **Phillips JJ**. EGFR amplification status for clinical trial inclusion: where do we draw the line? Neuro Oncol. 2019 Oct 9;21(10):1215-1216. doi: 10.1093/neuonc/noz146. PMID 31504815.

SIGNIFICANT PUBLICATIONS

1. **Phillips JJ**, Huillard E, Robinson AE, Ward A, Lum DH, Polley MY, Rosen SD, Rowitch DH, Werb Z. Heparan sulfate sulfatase SULF2 regulates PDGFRa signaling and growth in human and mouse malignant glioma. J Clin Invest. 2012 Mar 1; 122(3):911-22. PMID: 22293178. PMC3287216.

   In a series of studies we have demonstrated the important role that proteoglycans play in brain tumor progression and identified potential brain tumor biomarkers and novel therapeutic targets. In this publication, we demonstrated that the enzyme SULF2, which acts on the extracellular glycosaminoglycan chains of heparan sulfate proteoglycans (HSPGs), potently influences brain tumor development. Ablation of SULF2 decreased tumor growth and PDGFRA signaling in human and murine models for glioma. This study has laid the foundation for subsequent studies from our lab and others examining the role for proteoglycans and proteoglycan modifying enzymes in brain tumor pathogenesis. From our laboratory this includes four publications (Wade A et al., 2013 (cited 106 times); Wade et al., 2015; Singer MS et al., 2015; Tran VM et al., 2017), three review articles (Phillips JJ et al., 2012; Wade A et al., 2014; Lemjabbar-Alaoui H et al;., 2015), and one manuscript that is currently in revision at Science Signaling (Ohkawa Y et al, manuscript). Collectively, our studies demonstrate that alterations in proteoglycans, including alterations in glycosylation, confer altered receptor tyrosine kinase signaling, tumor cell invasion, and resistance to targeted receptor tyrosine kinase inhibitors.

2. Miroshnikova YA, Mouw JK, Barnes JM, Pickup MW, Lakins JN, Kim Y, Lobo K, Persson AI, Reis GF, McKnight TR, Holland EC, **Phillips JJ**, and Weaver VM. Tissue mechanics promote IDH1-dependent HIF1α-tenascin C feedback to regulate glioblastoma aggression. Nature Cell Biology, 18(12), 1336-1345. 2016. doi:10.1038/ncb3429. PMID: 27820599.

   Our interest in the tumor microenvironment and its role in tumor progression have led us to investigate the role for tissue mechanics in tumor aggression. In collaboration with Valerie Weaver's group at UCSF, we identified an interplay between tissue mechanics and tumor aggression. At progression to GBM, IDH1 mutant diffuse glioma acquire a more aggressive phenotype that is dependent on Hif1α-tenascin C feedback and a more stiff extracellular matrix. In subsequent collaborations with Dr. Weavers group we have demonstrated functional relevance for the glycocalyx in promoting aggressive GBM (Barnes JM et al., 2018).

3. Mazor T, Chesnelong C, Pankov A, Jalbert LE, Hong C, Hayes J, Smirnov IV, Marshall R, Souza CF, Shen Y, Viswanath P, Noushmehr H, Ronen SM, Jones SJM, Marra MA, Cairncross JG, Perry A, Nelson SJ, Chang SM, Bollen AW, Molinaro AM, Bengtsson H, Olshen AB, Weiss S, **Phillips JJ**, Luchman HA, Costello JF. Clonal expansion and epigenetic reprogramming following deletion or amplification of mutant IDH1. Proc Natl Acad Sci U S A. 2017 Oct 3;114(40):10743-10748. doi: 10.1073/pnas.1708914114. Epub 2017 Sep 15. PubMed PMID: 28916733; PMCID: PMC5635900.

   The analysis of human tumor tissue at progression is critical to better understand tumor evolution and mechanisms of therapeutic resistance. Working as part of a large collaborative group, we analyze both paired tumor samples, obtained at initial diagnosis and at recurrence, and multi-sample biopsies. IDH1 mutations initiate gliomagenesis but their role in tumor progression was unknown. In this study, using paired samples we identify a subset of diffuse glioma that acquire copy number alterations in mutant IDH1 at recurrence. This change in copy number was associated with altered expression of the mutant protein, decreased 2HG, and increased proliferation. Identification of the factors that permit clonal expansion of tumor cells that lack mutant IDH1 and 2HG will be important for the success of therapies targeting mutant IDH1.

4. **Phillips JJ**, Gong H, Chen K, Joseph NM, van Ziffle J, Bastian BC, Grenert JP, Kline CN, Mueller S, Banerjee A, Nicolaides T, Gupta N, Berger MS, Lee HS, Pekmezci M, Tihan T, Bollen AW, Perry A, Shieh JTC, Solomon DA. The genetic landscape of anaplastic pleomorphic xanthoastrocytoma. Brain Pathol. 2018 Jul 27. doi: 10.1111/bpa.12639. PubMed PMID: 30051528.

   The factors that drive anaplastic progression in glioma are largely unknown. In this study, we performed comprehensive genomic profiling on a set of twenty-three pleomorphic xanthoastrocytomas (PXAs),including 15 with anaplastic progression. Four patients had tumor tissue from multiple recurrences. We demonstrated that PXAs are genetically defined by the combination of CDKN2A biallelic inactivation and RAF alterations, most commonly as BRAF p.V600E mutation. In anaplastic tumors, the third most commonly altered gene was TERT, with 47% harboring TERT alterations, either gene amplification or promoter hotspot mutation. Analysis of multiple samples from the same tumor demonstrated intratumoral heterogeneity likely reflecting clonal evolution during tumor progression. Together with our previous publication on anaplastic PXA (Phillips JJ et al., 2016), our data suggest specific genomic alterations, such as TERT alterations, may drive anaplastic progression in PXA. Identification of these alterations may be useful in therapeutic stratification of patients. In ongoing studies we are investigating the cellular and genomic heterogeneity of PXA and how these factors contribute to tumor progression.

5. McKinney A, Lindberg OR, Engler JR, Chen KY, Kumar A, Gong H, Lu KV, Simonds EF, Cloughesy TF, Liau LM, Prados M, Bollen AW, Berger MS, Shieh JTC, James CD, Nicolaides TP, Yong WH, Lai A, Hegi ME, Weiss WA, **Phillips JJ**. Mechanisms of resistance to EGFR inhibition reveal metabolic vulnerabilities in human GBM. Mol Cancer Ther. 2019 Jul 3. pii: molcanther.1330.2018. doi: 10.1158/1535-7163.MCT-18-1330. [Epub ahead of print] PubMed PMID: 31270152.

   Amplification of the epidermal growth factor receptor gene (EGFR) represents one of the most commonly observed genetic lesions in glioblastoma (GBM), however, therapies targeting this signaling pathway have failed clinically. Using human tumors, primary patient-derived xenografts (PDXs), and a murine model for GBM, we demonstrated that EGFR inhibition leads to increased invasion of tumor cells. Further, EGFR inhibitor-treated GBM demonstrated altered oxidative stress, with increased lipid peroxidation, and generation of toxic lipid peroxidation products. These metabolically unique cells, resistant to EGFR inhibitor therapy, had elevated aldehyde dehydrogenase (ALDH) levels. In analyses of paired human GBM before and after EGFR inhibitor therapy there was an increase in ALDH1A1 expression. We identify ALDH as a biomarker of GBM cells with high invasive potential, altered oxidative stress, and resistance to EGFR inhibition, and reveal a therapeutic target whose inhibition could limit GBM invasion. This article was selected and highlighted by the journal.

CONFERENCE ABSTRACTS

1. Zaia J, C Shao, J Klein, J Phillips. 2016. Comprehensive glycoproteomics of glioblastoma biospecimens. GLYCOBIOLOGY 26 (12), 1452-1453.
2. Ohkawa Y, A Wade, OR Lindberg, K Chen, VM Tran, **JJ Phillips**. 2017. CSIG-14. Heparan sulfate modulates cell signaling by receptor tyrosine kinases in human and murine glioblastoma. Neuro-Oncology 19 (Suppl 6), vi52.
3. Kumar A, K Chen, S Patel, T Nicolaides, DA Solomon, C Petritsch, **JJ Phillips**. Tumor-associated immune response in anaplastic PXA. Pediatric SNO Meeting, San Francisco, CA.
4. Hilz S, Hong C, Jalbert LE, Mazor T, Martin M, Shelton SJ, Wong KHK, Hayes JL, Yu Y, Zhang MY, Luks T, Olson MP, Lafontaine M, Shai A, Bengtsson H, Olshen A, Molinaro AM, McDermott MW, Chang EF, Hervey-Jumper SL, Berger MS, Lim DA, Diaz A, Lupo JM, **Phillips JJ**, Chang SM, Nelson SJ, Oldham MC, Costello JF. Building a 3D Atlas to evaluate the spatial patterning of genetic alterations and tumor cell states in glioma. 2019 SNO Annual Meeting.
5. Taylor J, Molinaro AM, Rodriguez Almaraz JE, Downey C, **Phillips JJ**, Butowski NA, Oberheim-Bush NA, Chang SM, Berger MS, Prados M, Haas-Kogen D, Clarke JL. PI3K/mTOR Pathway Activation Selected Phase II Study of Everolimus (RAD001) With and Without Temozolomide in the Treatment of Adult Patients with Supratentorial Low-Grade Glioma [NCT NCT02023905]. 2019 SNO Annual Meeting
6. Cluceru J, Nelson SJ, Wen Q, **Phillips JJ**, Molinaro AM, Chunduru P, Shai A, Alcaide-Leon P, Olson MP, Nair D, LaFontaine M, Villanueva-Meyer JE, Cha S, Berger MS, Chang SM, Lupo JM. . Recurrent tumor and treatment-induced effects have different MR signatures in contrast enhancing and non-enhancing lesions of high-grade gliomas. 2019 SNO Annual Meeting.

OTHER CREATIVE ACTIVITIES

1. Brain, Mind, and Behavior; helped create neuropathology teaching modules for first year medical students
2. Brain, Mind, and Behavior; helped create a brain tumor module syllabus and lecture and recorded the lecture for student use