

## Manuscripts that Use the Mayo Clinic Glioblastoma Models

1. Tuncbag N, Milani P, Pokorny JL, Johnson H, Sio TT, Dalin S, Iyekegbe DO, White FM, Sarkaria JN, Fraenkel E. Network Modeling Identifies Patient-specific Pathways in Glioblastoma. *Scientific reports*. 2016;6:28668. PMID: PMC4926112
2. Karpel-Massler G, Banu MA, Shu C, Halatsch ME, Westhoff MA, Bruce JN, Canoll P, Siegelin MD. Inhibition of deubiquitinases primes glioblastoma cells to apoptosis in vitro and in vivo. *Oncotarget*. 2016;7:12791-805. PMID: PMC4914322
3. Kitange GJ, Mladek AC, Schroeder MA, Pokorny JC, Carlson BL, Zhang Y, Nair AA, Lee JH, Yan H, Decker PA, Zhang Z, Sarkaria JN. Retinoblastoma Binding Protein 4 Modulates Temozolomide Sensitivity in Glioblastoma by Regulating DNA Repair Proteins. *Cell Rep*. 2016;14:2587-98. PMID: PMC4805508
4. Gupta SK, Kizilbash S, Carlson B, Mladek AC, Boakye-Agyeman F, Bakken K, Pokorny J, Schroeder M, Decker P, Cen L, Eckel-Passow J, Sarkar G, Ballman K, Reid J, Jenkins R, Verhaak RG, Sulman EP, Kitange G, Sarkaria J. Delineation of MGMT Hypermethylation as a Biomarker for Veliparib-Mediated Temozolomide-Sensitizing Therapy of Glioblastoma. *J Natl Cancer Inst*. 2016;108(5):djv369. PMID: PMC4862419
5. Parrish KE, Cen L, Murray J, Calligaris D, Kizilbash S, Mittapalli RK, Carlson BL, Schroeder MA, Sludden J, Boddy AV, Agar NY, Curtin NJ, Elmquist WF, Sarkaria JN. Efficacy of PARP Inhibitor Rucaparib in Orthotopic Glioblastoma Xenografts Is Limited by Ineffective Drug Penetration into the Central Nervous System. *Molecular cancer therapeutics*. 2015. PMID: PMC4674360
6. Roberts JL, Tavallai M, Nourbakhsh A, Fidanza A, Cruz-Luna T, Smith E, Siembida P, Plamondon P, Cycon KA, Doern CD, Booth L, Dent P. GRP78/Dna K Is a Target for Nexavar/Stivarga/Votrient in the Treatment of Human Malignancies, Viral Infections and Bacterial Diseases. *J Cell Physiol*. 2015;230:2552-78. PMID: PMC4843173
7. Ramirez YP, Mladek AC, Phillips RM, Gynther M, Rautio J, Ross AH, Wheelhouse RT, Sarkaria JN. Evaluation of novel imidazotetrazine analogues designed to overcome temozolomide resistance and glioblastoma regrowth. *Molecular cancer therapeutics*. 2015;14:111-9. PMID: PMC4297195
8. Pokorny JL, Calligaris D, Gupta SK, Iyekegbe DO, Jr., Mueller D, Bakken KK, Carlson BL, Schroeder MA, Evans DL, Lou Z, Decker PA, Eckel-Passow JE, Pucci V, Ma B, Shumway SD, Elmquist WF, Agar NY, Sarkaria JN. The Efficacy of the Wee1 Inhibitor MK-1775 Combined with Temozolomide Is Limited by Heterogeneous Distribution across the Blood-Brain Barrier in Glioblastoma. *Clinical cancer research: an official journal of the American Association for Cancer Research*. 2015;21:1916-24. PMID: PMC4401631

9. Li Q, Lu XH, Wang CD, Cai L, Lu JL, Wu JS, Zhuge QC, Zheng WM, Su ZP. Antiproliferative and apoptosis-inducing activity of schisandrin B against human glioma cells. *Cancer Cell Int.* 2015;15:12. PMID: PMC4326453
10. Lee EJ, Rath P, Liu J, Ryu D, Pei L, Noonepalle SK, Shull AY, Feng Q, Litofsky NS, Miller DC, Anthony DC, Kirk MD, Laterra J, Deng L, Xin HB, Wang X, Choi JH, Shi H. Identification of Global DNA Methylation Signatures in Glioblastoma-Derived Cancer Stem Cells. *J Genet Genomics.* 2015;42:355-71. PMID: PMC4648292
11. Johnson J, Ascierto ML, Mittal S, Newsome D, Kang L, Briggs M, Tanner K, Marincola FM, Berens ME, Vande Woude GF, Xie Q. Genomic profiling of a Hepatocyte growth factor-dependent signature for MET-targeted therapy in glioblastoma. *Journal of translational medicine.* 2015;13:306. PMID: PMC4574608
12. Hamed HA, Tavallai S, Grant S, Poklepovic A, Dent P. Sorafenib/regorafenib and lapatinib interact to kill CNS tumor cells. *J Cell Physiol.* 2015;230:131-9. PMID: PMC4182138
13. Friedman GK, Nan L, Haas MC, Kelly VM, Moore BP, Langford CP, Xu H, Han X, Beierle EA, Markert JM, Cassady KA, Gillespie GY. gamma(1)34.5-deleted HSV-1-expressing human cytomegalovirus IRS1 gene kills human glioblastoma cells as efficiently as wild-type HSV-1 in normoxia or hypoxia. *Gene Ther.* 2015;22:356. PMID: PMC4383690
14. Feng H, Li Y, Yin Y, Zhang W, Hou Y, Zhang L, Li Z, Xie B, Gao WQ, Sarkaria JN, Raizer JJ, James CD, Parsa AT, Hu B, Cheng SY. Protein kinase A-dependent phosphorylation of Dock180 at serine residue 1250 is important for glioma growth and invasion stimulated by platelet derived-growth factor receptor alpha. *Neuro-oncology.* 2015;17:832-42. PMID: PMC4483118
15. Fang C, Wang K, Stephen ZR, Mu QX, Kievit FM, Chiu DT, Press OW, Zhang MQ. Temozolomide Nanoparticles for Targeted Glioblastoma Therapy. *Acs Appl Mater Inter.* 2015;7:6674-82. PMID: PMC4637162
16. Booth L, Roberts JL, Cruickshanks N, Tavallai S, Webb T, Samuel P, Conley A, Binion B, Young HF, Poklepovic A, Spiegel S, Dent P. PDE5 inhibitors enhance celecoxib killing in multiple tumor types. *J Cell Physiol.* 2015;230:1115-27. PMID: PMC4398314
17. Booth L, Roberts JL, Cash DR, Tavallai S, Jean S, Fidanza A, Cruz-Luna T, Siembiba P, Cycon KA, Cornelissen CN, Dent P. GRP78/BiP/HSPA5/Dna K is a universal therapeutic target for human disease. *J Cell Physiol.* 2015;230:1661-76. PMID: PMC4402027
18. Annovazzi L, Caldera V, Mellai M, Riganti C, Battaglia L, Chirio D, Melcarne A, Schiffer D. The DNA damage/repair cascade in glioblastoma cell lines after chemotherapeutic agent treatment. *Int J Oncol.* 2015;46:2299-308. PMID: PMC4441296

19. Campbell SL, Robel S, Cuddapah VA, Robert S, Buckingham SC, Kahle KT, Sontheimer H. GABAergic disinhibition and impaired KCC2 cotransporter activity underlie tumor-associated epilepsy. *Glia*. 2015;63:23-36. PMID: PMC4237714
20. Curran TG, Zhang Y, Ma DJ, Sarkaria JN, White FM. MARQUIS: a multiplex method for absolute quantification of peptides and posttranslational modifications. *Nature communications*. 2015;6:5924. PMID: PMC4293043
21. Pastori C, Kapranov P, Penas C, Peschansky V, Volmar CH, Sarkaria JN, Bregy A, Komotar R, St Laurent G, Ayad NG, Wahlestedt C. The Bromodomain protein BRD4 controls HOTAIR, a long noncoding RNA essential for glioblastoma proliferation. *Proc Natl Acad Sci U S A*. 2015;112:8326-31. PMID: PMC4500283
22. Ma Y, Gong Y, Cheng Z, Loganathan S, Kao C, Sarkaria JN, Abel TW, Wang J. Critical functions of RhoB in support of glioblastoma tumorigenesis. *Neuro-oncology*. 2015;17:516-25. PMID: PMC4483068
23. Zhang L, Zhang Z, Mason RP, Sarkaria JN, Zhao D. Convertible MRI contrast: Sensing the delivery and release of anti-glioma nano-drugs. *Scientific reports*. 2015;5:9874. PMID: PMC4428068
24. DePristo MA, Banks E, Poplin R, Garimella KV, Maguire JR, Hartl C, Philippakis AA, del Angel G, Rivas MA, Hanna M, McKenna A, Fennell TJ, Kernysky AM, Sivachenko AY, Cibulskis K, Gabriel SB, Altshuler D, Daly MJ. A framework for variation discovery and genotyping using next-generation DNA sequencing data. *Nat Genet*. 2011;43(5):491-8. PMID: 3083463. PMID: PMC3083463
25. Wang L, Wang S, Li W. RSeQC: quality control of RNA-seq experiments. *Bioinformatics*. 2012;28(16):2184-5.
26. Wang C, Davila JI, Baheti S, Bhagwate AV, Wang X, Kocher JP, Slager SL, Feldman AL, Novak AJ, Cerhan JR, Thompson EA, Asmann YW. RVboost: RNA-seq variants prioritization using a boosting method. *Bioinformatics*. 2014;30(23):3414-6. PMID: 4296157.
27. Liao Y, Smyth GK, Shi W. featureCounts: an efficient general purpose program for assigning sequence reads to genomic features. *Bioinformatics*. 2014;30(7):923-30.
28. Kim D, Pertea G, Trapnell C, Pimentel H, Kelley R, Salzberg SL. TopHat2: accurate alignment of transcriptomes in the presence of insertions, deletions and gene fusions. *Genome Biol*. 2013;14(4):R36. PMID: 4053844.
29. Lewis-Tuffin LJ, Feathers R, Hari P, Durand N, Li Z, Rodriguez FJ, Bakken K, Carlson B, Schroeder M, Sarkaria JN, Anastasiadis PZ. Src family kinases differentially influence glioma growth and motility. *Molecular oncology*. 2015. PMID: PMC4623998

30. Renner DN, Jin F, Litterman AJ, Balgeman AJ, Hanson LM, Gamez JD, Chae M, Carlson BL, Sarkaria JN, Parney IF, Ohlfest JR, Pirko I, Pavelko KD, Johnson AJ. Effective Treatment of Established GL261 Murine Gliomas through Picornavirus Vaccination-Enhanced Tumor Antigen-Specific CD8+ T Cell Responses. *PloS one*. 2015;10(5):e0125565. PMID: 4416934.
31. Pokorny JL, Calligaris D, Gupta SK, Iyekegbe DO, Jr., Mueller D, Bakken KK, Carlson BL, Schroeder MA, Evans DL, Lou Z, Decker PA, Eckel-Passow JE, Pucci V, Ma B, Shumway SD, Elmquist WF, Agar NY, Sarkaria JN. The Efficacy of the Wee1 Inhibitor MK-1775 Combined with Temozolomide Is Limited by Heterogeneous Distribution across the Blood-Brain Barrier in Glioblastoma. *Clinical cancer research: an official journal of the American Association for Cancer Research*. 2015;21(8):1916-24. PMID: 4401631.
32. Booth L, Roberts JL, Tavallai M, Nourbakhsh A, Chuckalovcak J, Carter J, Poklepovic A, Dent P. OSU-03012 and Viagra Treatment Inhibits the Activity of Multiple Chaperone Proteins and Disrupts the Blood-Brain Barrier: Implications for Anti-Cancer Therapies. *J Cell Physiol*. 2015;230(8):1982-98. PMID: PMC4835175
33. Garner JM, Ellison DW, Finkelstein D, Ganguly D, Du Z, Sims M, Yang CH, Interiano RB, Davidoff AM, Pfeffer LM. Molecular heterogeneity in a patient-derived glioblastoma xenoline is regulated by different cancer stem cell populations. *PloS one*. 2015;10(5):e0125838. PMID: 4425556.
34. Chong DQ, Toh XY, Ho IA, Sia KC, Newman JP, Yulyana Y, Ng WH, Lai SH, Ho MM, Dinesh N, Tham CK, Lam PY. Combined treatment of Nimotuzumab and rapamycin is effective against temozolomide-resistant human gliomas regardless of the EGFR mutation status. *BMC cancer*. 2015;15(1):255. PMID: 4408574.
35. Zhu S, Kisiel W, Lu YJ, Petersen LC, Ndungu JM, Moore TW, Parker ET, Sun A, Sarkaria JN, Snyder JP, Liotta DC, Brat DJ, El-Rayes BF, Shoji M. Visualizing cancer and response to therapy in vivo using Cy5.5-labeled factor VIIa and anti-tissue factor antibody. *J Drug Target*. 2015;23(3):257-65. PMID: PMC4625384
36. Nakamura T, Peng K-W, Harvey M, Greiner S, Lorimer IAJ, James CD, Russell SJ. Rescue and propagation of fully retargeted oncolytic measles viruses. *Nat Biotechnol*. 2005;23(2):209-14.
37. Yu C, Friday BB, Lai J-P, Yang L, Sarkaria J, Kay NE, Carter CA, Roberts LR, Kaufmann SH, Adjei AA. Cytotoxic synergy between the multikinase inhibitor sorafenib and the proteasome inhibitor bortezomib in vitro: induction of apoptosis through Akt and c-Jun NH2-terminal kinase pathways. *Molecular Cancer Therapeutics*. 2006;5(9):2378-87.
38. McAvoy S, Ganapathiraju S, Perez DS, James CD, Smith DI. DMD and IL1RAPL1: two large adjacent genes localized within a common fragile site (FRAXC) have reduced expression in cultured brain tumors. *Cytogenetic & Genome Research*. 2007;119(3-4):196-203.

39. Lu KV, Zhu S, Cvriljevic A, Huang TT, Sarkaria S, Ahkavan D, Dang J, Dinca EB, Plaisier SB, Oderberg I, Lee Y, Chen Z, Caldwell JS, Xie Y, Loo JA, Seligson D, Chakravari A, Lee FY, Weinmann R, Cloughesy TF, Nelson SF, Bergers G, Graeber T, Furnari FB, James CD, Cavenee WK, Johns TG, Mischel PS. Fyn and SRC are effectors of oncogenic epidermal growth factor receptor signaling in glioblastoma patients. *Cancer Res.* 2009;69(17):6889-98. PMID: PMC2770839
40. Hodgson JG, Yeh R-F, Ray A, Wang NJ, Smirnov I, Yu M, Hariono S, Silber J, Feiler HS, Gray JW, Spellman PT, Vandenberg SR, Berger MS, James CD. Comparative analyses of gene copy number and mRNA expression in glioblastoma multiforme tumors and xenografts. *Neuro-oncology.* 2009;11(5):477-87. PMID: PMC2765338.
41. Verhaak RGW, Hoadley KA, Purdom E, Wang V, Qi Y, Wilkerson MD, Miller CR, Ding L, Golub T, Mesirov JP, Alexe G, Lawrence M, O'Kelly M, Tamayo P, Weir BA, Gabriel S, Winckler W, Gupta S, Jakkula L, Feiler HS, Hodgson JG, James CD, Sarkaria JN, Brennan C, Kahn A, Spellman PT, Wilson RK, Speed TP, Gray JW, Meyerson M, Getz G, Perou CM, Hayes DN, Cancer Genome Atlas Research N. Integrated genomic analysis identifies clinically relevant subtypes of glioblastoma characterized by abnormalities in PDGFRA, IDH1, EGFR, and NF1. *Cancer Cell.* 2010;17(1):98-110. PMID: PMC2818769.
42. Zhu X, Bidlingmaier S, Hashizume R, James CD, Berger MS, Liu B. Identification of internalizing human single-chain antibodies targeting brain tumor sphere cells. *Molecular Cancer Therapeutics.* 2010;9(7):2131-41. PMID: PMC2944778.
43. Feng H, Hu B, Liu K-W, Li Y, Lu X, Cheng T, Yiin J-J, Lu S, Keezer S, Fenton T, Furnari FB, Hamilton RL, Vuori K, Sarkaria JN, Nagane M, Nishikawa R, Cavenee WK, Cheng S-Y. Activation of Rac1 by Src-dependent phosphorylation of Dock180(Y1811) mediates PDGFRalpha-stimulated glioma tumorigenesis in mice and humans. *J Clin Invest.* 2011;121(12):4670-84. PMID: PMC3223070.
44. Feng H, Hu B, Jarzynka MJ, Li Y, Keezer S, Johns TG, Tang CK, Hamilton RL, Vuori K, Nishikawa R, Sarkaria JN, Fenton T, Cheng T, Furnari FB, Cavenee WK, Cheng S-Y. Phosphorylation of dedicator of cytokinesis 1 (Dock180) at tyrosine residue Y722 by Src family kinases mediates EGFRvIII-driven glioblastoma tumorigenesis. *Proc Natl Acad Sci U S A.* 2012;109(8):3018-23. PMID: PMC3286964.
45. Opyrchal M, Allen C, Iankov I, Aderca I, Schroeder M, Sarkaria J, Galanis E. Effective radiovirotherapy for malignant gliomas by using oncolytic measles virus strains encoding the sodium iodide symporter (MV-NIS). *Hum Gene Ther.* 2012;23(4):419-27. PMID: PMC3327604.
46. Toussaint LG, 3rd, Nilson AE, Goble JM, Ballman KV, James CD, Lefranc F, Kiss R, Uhm JH. Galectin-1, a gene preferentially expressed at the tumor margin, promotes glioblastoma cell invasion. *Molecular Cancer.* 2012;11:32. PMID: PMC3407025.

47. Cheng CK, Gustafson WC, Charron E, Houseman BT, Zunder E, Goga A, Gray NS, Pollok B, Oakes SA, James CD, Shokat KM, Weiss WA, Fan Q-W. Dual blockade of lipid and cyclin-dependent kinases induces synthetic lethality in malignant glioma. *Proc Natl Acad Sci U S A*. 2012;109(31):12722-7. PMID: PMC3411950.
48. Fenton TR, Nathanson D, Ponte de Albuquerque C, Kuga D, Iwanami A, Dang J, Yang H, Tanaka K, Oba-Shinjo SM, Uno M, Inda MdM, Wykosky J, Bachoo RM, James CD, DePinho RA, Vandenberg SR, Zhou H, Marie SKN, Mischel PS, Cavenee WK, Furnari FB. Resistance to EGF receptor inhibitors in glioblastoma mediated by phosphorylation of the PTEN tumor suppressor at tyrosine 240. *Proc Natl Acad Sci U S A*. 2012;109(35):14164-9. PMID: PMC3435194.
49. Agarwal S, Mittapalli RK, Zellmer DM, Gallardo JL, Donelson R, Seiler C, Decker SA, Santacruz KS, Pokorny JL, Sarkaria JN, Elmquist WF, Ohlfest JR. Active efflux of Dasatinib from the brain limits efficacy against murine glioblastoma: broad implications for the clinical use of molecularly targeted agents. *Molecular Cancer Therapeutics*. 2012;11(10):2183-92. PMID: PMC3469747.
50. Chen P-Y, Ozawa T, Drummond DC, Kalra A, Fitzgerald JB, Kirpotin DB, Wei K-C, Butowski N, Prados MD, Berger MS, Forsayeth JR, Bankiewicz K, James CD. Comparing routes of delivery for nanoliposomal irinotecan shows superior anti-tumor activity of local administration in treating intracranial glioblastoma xenografts. *Neuro-oncology*. 2013;15(2):189-97. PMID: PMC3548589
51. Guvenc H, Pavlyukov MS, Joshi K, Kurt H, Banasavadi-Siddegowda YK, Mao P, Hong C, Yamada R, Kwon C-H, Bhasin D, Chettiar S, Kitange G, Park I-H, Sarkaria JN, Li C, Shakhparonov MI, Nakano I. Impairment of glioma stem cell survival and growth by a novel inhibitor for Survivin-Ran protein complex. *Clin Cancer Res*. 2013;19(3):631-42. PMID: PMC4295559
52. Takahashi R, Giannini C, Sarkaria JN, Schroeder M, Rogers J, Mastroeni D, Scrabble H. p53 isoform profiling in glioblastoma and injured brain. *Oncogene*. 2013;32(26):3165-74. PMID: PMC3904233
53. Pluquet O, Dejeans N, Bouche-careilh M, Lhomond S, Pineau R, Higa A, Delugin M, Combe C, Lorient S, Cubel G, Dugot-Senant N, Vital A, Loiseau H, Gosline SJC, Taouji S, Hallett M, Sarkaria JN, Anderson K, Wu W, Rodriguez FJ, Rosenbaum J, Saltel F, Fernandez-Zapico ME, Chevet E. Posttranscriptional regulation of PER1 underlies the oncogenic function of IREalpha. *Cancer Res*. 2013;73(15):4732-43. PMID: PMC3915716
54. Flavahan WA, Wu Q, Hitomi M, Rahim N, Kim Y, Sloan AE, Weil RJ, Nakano I, Sarkaria JN, Stringer BW, Day BW, Li M, Lathia JD, Rich JN, Hjelmeland AB. Brain tumor initiating cells adapt to restricted nutrition through preferential glucose uptake. *Nat Neurosci*. 2013;16(10):1373-82. PMID: PMC3930177

55. Nathanson DA, Gini B, Mottahedeh J, Visnyei K, Koga T, Gomez G, Eskin A, Hwang K, Wang J, Masui K, Paucar A, Yang H, Ohashi M, Zhu S, Wykosky J, Reed R, Nelson SF, Cloughesy TF, James CD, Rao PN, Kornblum HI, Heath JR, Cavenee WK, Furnari FB, Mischel PS. Targeted therapy resistance mediated by dynamic regulation of extrachromosomal mutant EGFR DNA. *Science*. 2014; 343(6166):72-6. PMID: PMC4049335
56. Choi JW, Schroeder MA, Sarkaria JN, Bram RJ. Cyclophilin B supports Myc and mutant p53-dependent survival of glioblastoma multiforme cells. *Cancer Res*. 2014;74(2):484-96. PMID: PMC3935234
57. Grogan PT, Sarkaria JN, Timmermann BN, Cohen MS. Oxidative cytotoxic agent withaferin A resensitizes temozolomide-resistant glioblastomas via MGMT depletion and induces apoptosis through Akt/mTOR pathway inhibitory modulation. *Invest New Drugs*. 2014;32(4):604-17. PMID: PMC4380174
58. Shing JC, Choi JW, Chapman R, Schroeder MA, Sarkaria JN, Fauq A, Bram RJ. A novel synthetic 1,3-phenyl bis-thiourea compound targets microtubule polymerization to cause cancer cell death. *Cancer Biology & Therapy*. 2014;15(7):895-905. PMID: PMC4100990
59. Kushwaha D, Ramakrishnan V, Ng K, Steed T, Nguyen T, Futalan D, Akers JC, Sarkaria J, Jiang T, Chowdhury D, Carter BS, Chen CC. A genome-wide miRNA screen revealed miR-603 as a MGMT-regulating miRNA in glioblastomas. *Oncotarget*. 2014;5(12):4026-39. PMID: PMC4147303.
60. Zhang Y, Farenholtz KE, Yang Y, Guessous F, Dipierro CG, Calvert VS, Deng J, Schiff D, Xin W, Lee JK, Purow B, Christensen J, Petricoin E, Abounader R. Hepatocyte growth factor sensitizes brain tumors to c-MET kinase inhibition. *Clinical cancer research : an official journal of the American Association for Cancer Research*. 2013;19(6):1433-44. PMID: 3602223.
61. Zhang J, van Zijl PC, Lattera J, Salhotra A, Lal B, Mori S, Zhou J. Unique patterns of diffusion directionality in rat brain tumors revealed by high-resolution diffusion tensor MRI. *Magnetic resonance in medicine : official journal of the Society of Magnetic Resonance in Medicine / Society of Magnetic Resonance in Medicine*. 2007;58(3):454-62. PMID: 3715744.
62. Yu C, Friday BB, Yang L, Atadja P, Wigle D, Sarkaria J, Adjei AA. Mitochondrial Bax translocation partially mediates synergistic cytotoxicity between histone deacetylase inhibitors and proteasome inhibitors in glioma cells. *Neuro-oncology*. 2008;10(3):309-19. PMID: PMC2563053
63. Youland RS, Kitange GJ, Peterson TE, Pafundi DH, Ramiscal JA, Pokorny JL, Giannini C, Laack NN, Parney IF, Lowe VJ, Brinkmann DH, Sarkaria JN. The role of LAT1 in (18)F-DOPA uptake in malignant gliomas. *J Neurooncol*. 2013;111(1):11-8. PMID: 3907171.

64. Yiin JJ, Hu B, Schornack PA, Sengar RS, Liu KW, Feng H, Lieberman FS, Chiou SH, Sarkaria JN, Wiener EC, Ma HI, Cheng SY. ZD6474, a multitargeted inhibitor for receptor tyrosine kinases, suppresses growth of gliomas expressing an epidermal growth factor receptor mutant, EGFRvIII, in the brain. *Molecular cancer therapeutics*. 2010;9(4):929-41. PMID: 2874950.
65. Yang L, Clarke MJ, Carlson BL, Mladek AC, Schroeder MA, Decker P, Wu W, Kitange GJ, Grogan PT, Goble JM, Uhm J, Galanis E, Giannini C, Lane HA, James CD, Sarkaria JN. PTEN loss does not predict for response to RAD001 (Everolimus) in a glioblastoma orthotopic xenograft test panel. *Clinical cancer research : an official journal of the American Association for Cancer Research*. 2008;14(12):3993-4001. PMID: 3972037.
66. Yacoub A, Park MA, Hanna D, Hong Y, Mitchell C, Pandya AP, Harada H, Powis G, Chen CS, Koumenis C, Grant S, Dent P. OSU-03012 promotes caspase-independent but PERK-, cathepsin B-, BID-, and AIF-dependent killing of transformed cells. *Mol Pharmacol*. 2006;70(2):589-603.
67. Yacoub A, Park MA, Gupta P, Rahmani M, Zhang G, Hamed H, Hanna D, Sarkar D, Lebedeva IV, Emdad L, Sauane M, Vozhilla N, Spiegel S, Koumenis C, Graf M, Curiel DT, Grant S, Fisher PB, Dent P. Caspase-, cathepsin-, and PERK-dependent regulation of MDA-7/IL-24-induced cell killing in primary human glioma cells. *Molecular cancer therapeutics*. 2008;7(2):297-313. PMID: PMC3204355
68. Yacoub A, Mitchell C, Hong Y, Gopalkrishnan RV, Su ZZ, Gupta P, Sauane M, Lebedeva IV, Curiel DT, Mahasreshti PJ, Rosenfeld MR, Broaddus WC, James CD, Grant S, Fisher PB, Dent P. MDA-7 regulates cell growth and radiosensitivity in vitro of primary (non-established) human glioma cells. *Cancer biology & therapy*. 2004;3(8):739-51.
69. Yacoub A, Hamed H, Emdad L, Dos Santos W, Gupta P, Broaddus WC, Ramakrishnan V, Sarkar D, Shah K, Curiel DT, Grant S, Fisher PB, Dent P. MDA-7/IL-24 plus radiation enhance survival in animals with intracranial primary human GBM tumors. *Cancer biology & therapy*. 2008;7(6):917-36.
70. Yacoub A, Gupta P, Park MA, Rhamani M, Hamed H, Hanna D, Zhang G, Sarkar D, Lebedeva IV, Emdad L, Koumenis C, Curiel DT, Grant S, Fisher PB, Dent P. Regulation of GST-MDA-7 toxicity in human glioblastoma cells by ERBB1, ERK1/2, PI3K, and JNK1-3 pathway signaling. *Molecular cancer therapeutics*. 2008;7(2):314-29.
71. Xue R, Behera P, Xu J, Viapiano MS, Lannutti JJ. Polydimethylsiloxane Core-Polycaprolactone Shell Nanofibers as Biocompatible, Real-Time Oxygen Sensors. *Sens Actuators B Chem*. 2014;192:697-707. PMID: 4082658.
72. Xia S, Li Y, Rosen EM, Laterra J. Ribotoxic stress sensitizes glioblastoma cells to death receptor induced apoptosis: requirements for c-Jun NH2-terminal kinase and Bim. *Mol Cancer Res*. 2007;5(8):783-92.



73. Wang S, Zhou J. Diffusion tensor magnetic resonance imaging of rat glioma models: a correlation study of MR imaging and histology. *J Comput Assist Tomogr.* 2012;36(6):739-44. PMID: 3513798.
74. Wang E, Zhang C, Polavaram N, Liu F, Wu G, Schroeder MA, Lau JS, Mukhopadhyay D, Jiang SW, O'Neill BP, Datta K, Li J. The role of factor inhibiting HIF (FIH-1) in inhibiting HIF-1 transcriptional activity in glioblastoma multiforme. *PLoS one.* 2014;9(1):e86102. PMID: 3900478.
75. Venkatesh HS, Chaumeil MM, Ward CS, Haas-Kogan DA, James CD, Ronen SM. Reduced phosphocholine and hyperpolarized lactate provide magnetic resonance biomarkers of PI3K/Akt/mTOR inhibition in glioblastoma. *Neuro-oncology.* 2012;14(3):315-25. PMID: 3280799.
76. Tobias AL, Thaci B, Auffinger B, Rincon E, Balyasnikova IV, Kim CK, Han Y, Zhang L, Aboody KS, Ahmed AU, Lesniak MS. The timing of neural stem cell-based virotherapy is critical for optimal therapeutic efficacy when applied with radiation and chemotherapy for the treatment of glioblastoma. *Stem Cells Transl Med.* 2013;2(9):655-66. PMID: 3754466.
77. Serwer LP, Noble CO, Michaud K, Drummond DC, Kirpotin DB, Ozawa T, Prados MD, Park JW, James CD. Investigation of intravenous delivery of nanoliposomal topotecan for activity against orthotopic glioblastoma xenografts. *Neuro-oncology.* 2011;13(12):1288-95. PMID: 3223095.
78. Sarkaria JN, Yang L, Grogan PT, Kitange GJ, Carlson BL, Schroeder MA, Galanis E, Giannini C, Wu W, Dinca EB, James CD. Identification of molecular characteristics correlated with glioblastoma sensitivity to EGFR kinase inhibition through use of an intracranial xenograft test panel. *Molecular cancer therapeutics.* 2007;6(3):1167-74.
79. Sarkaria JN, Carlson BL, Schroeder MA, Grogan P, Brown PD, Giannini C, Ballman KV, Kitange GJ, Guha A, Pandita A, James CD. Use of an orthotopic xenograft model for assessing the effect of epidermal growth factor receptor amplification on glioblastoma radiation response. *Clinical cancer research : an official journal of the American Association for Cancer Research.* 2006;12(7 Pt 1):2264-71.
80. Salphati L, Heffron TP, Alicke B, Nishimura M, Barck K, Carano RA, Cheong J, Edgar KA, Greve J, Kharbanda S, Koeppen H, Lau S, Lee LB, Pang J, Plise EG, Pokorny JL, Reslan HB, Sarkaria JN, Wallin JJ, Zhang X, Gould SE, Olivero AG, Phillips HS. Targeting the PI3K pathway in the brain--efficacy of a PI3K inhibitor optimized to cross the blood-brain barrier. *Clinical cancer research: an official journal of the American Association for Cancer Research.* 2012;18(22):6239-48.
81. Robinson CG, Palomo JM, Rahmathulla G, McGraw M, Donze J, Liu L, Vogelbaum MA. Effect of alternative temozolomide schedules on glioblastoma O(6)-methylguanine-DNA methyltransferase activity and survival. *Br J Cancer.* 2010;103(4):498-504. PMID: 2939788.

82. Prasad G, Sottero T, Yang X, Mueller S, James CD, Weiss WA, Polley MY, Ozawa T, Berger MS, Aftab DT, Prados MD, Haas-Kogan DA. Inhibition of PI3K/mTOR pathways in glioblastoma and implications for combination therapy with temozolomide. *Neuro-oncology*. 2011;13(4):384-92. PMID: 3064692.
83. Pastori C, Daniel M, Penas C, Volmar CH, Johnstone AL, Brothers SP, Graham RM, Allen B, Sarkaria JN, Komotar RJ, Wahlestedt C, Ayad NG. BET bromodomain proteins are required for glioblastoma cell proliferation. *Epigenetics*. 2014;9(4):611-20. PMID: 4121371.
84. Park MA, Yacoub A, Rahmani M, Zhang G, Hart L, Hagan MP, Calderwood SK, Sherman MY, Koumenis C, Spiegel S, Chen CS, Graf M, Curiel DT, Fisher PB, Grant S, Dent P. OSU-03012 stimulates PKR-like endoplasmic reticulum-dependent increases in 70-kDa heat shock protein expression, attenuating its lethal actions in transformed cells. *Mol Pharmacol*. 2008;73(4):1168-84. PMID: 2674576.
85. Paraskevakou G, Allen C, Nakamura T, Zollman P, James CD, Peng KW, Schroeder M, Russell SJ, Galanis E. Epidermal growth factor receptor (EGFR)-retargeted measles virus strains effectively target EGFR- or EGFRvIII expressing gliomas. *Mol Ther*. 2007;15(4):677-86.
86. Panner A, James CD, Berger MS, Pieper RO. mTOR controls FLIPS translation and TRAIL sensitivity in glioblastoma multiforme cells. *Mol Cell Biol*. 2005;25(20):8809-23. PMID: 1265779.
87. Pandita A, Aldape KD, Zadeh G, Guha A, James CD. Contrasting in vivo and in vitro fates of glioblastoma cell subpopulations with amplified EGFR. *Genes Chromosomes Cancer*. 2004;39(1):29-36.
88. Oliva CR, Nozell SE, Diers A, McCluggage SG, 3rd, Sarkaria JN, Markert JM, Darley-Usmar VM, Bailey SM, Gillespie GY, Landar A, Griguer CE. Acquisition of temozolomide chemoresistance in gliomas leads to remodeling of mitochondrial electron transport chain. *The Journal of biological chemistry*. 2010;285(51):39759-67. PMID: 3000957.
89. Nadkarni A, Shrivastav M, Mladek AC, Schwingler PM, Grogan PT, Chen J, Sarkaria JN. ATM inhibitor KU-55933 increases the TMZ responsiveness of only inherently TMZ sensitive GBM cells. *J Neurooncol*. 2012;110(3):349-57. PMID: 3535329.
90. Michaud K, Solomon DA, Oermann E, Kim JS, Zhong WZ, Prados MD, Ozawa T, James CD, Waldman T. Pharmacologic inhibition of cyclin-dependent kinases 4 and 6 arrests the growth of glioblastoma multiforme intracranial xenografts. *Cancer Res*. 2010;70(8):3228-38. PMID: 2855904.

91. Loftus JC, Yang Z, Tran NL, Kloss J, Viso C, Berens ME, Lipinski CA. The Pyk2 FERM domain as a target to inhibit glioma migration. *Molecular cancer therapeutics*. 2009;8(6):1505-14. PMID: 3180876.
92. Liu C, Sarkaria JN, Petell CA, Paraskevaku G, Zollman PJ, Schroeder M, Carlson B, Decker PA, Wu W, James CD, Russell SJ, Galanis E. Combination of measles virus virotherapy and radiation therapy has synergistic activity in the treatment of glioblastoma multiforme. *Clinical cancer research : an official journal of the American Association for Cancer Research*. 2007;13(23):7155-65.
93. Lewis-Tuffin LJ, Rodriguez F, Giannini C, Scheithauer B, Necela BM, Sarkaria JN, Anastasiadis PZ. Misregulated E-cadherin expression associated with an aggressive brain tumor phenotype. *PloS one*. 2010;5(10):e13665. PMID: 2965143.
94. Kitange GJ, Mladek AC, Carlson BL, Schroeder MA, Pokorny JL, Cen L, Decker PA, Wu W, Lomberk GA, Gupta SK, Urrutia RA, Sarkaria JN. Inhibition of histone deacetylation potentiates the evolution of acquired temozolomide resistance linked to MGMT upregulation in glioblastoma xenografts. *Clinical cancer research : an official journal of the American Association for Cancer Research*. 2012;18(15):4070-9. PMID: 3716364.
95. Kitange GJ, Carlson BL, Schroeder MA, Grogan PT, Lamont JD, Decker PA, Wu W, James CD, Sarkaria JN. Induction of MGMT expression is associated with temozolomide resistance in glioblastoma xenografts. *Neuro-oncology*. 2009;11(3):281-91. PMID: 2718972.
96. Kitange GJ, Carlson BL, Schroeder MA, Decker PA, Morlan BW, Wu W, Ballman KV, Giannini C, Sarkaria JN. Expression of CD74 in high grade gliomas: a potential role in temozolomide resistance. *J Neurooncol*. 2010;100(2):177-86. PMID: 3233976.
97. Kitange GJ, Carlson BL, Mladek AC, Decker PA, Schroeder MA, Wu W, Grogan PT, Giannini C, Ballman KV, Buckner JC, James CD, Sarkaria JN. Evaluation of MGMT promoter methylation status and correlation with temozolomide response in orthotopic glioblastoma xenograft model. *J Neurooncol*. 2009;92(1):23-31. PMID: 2790867.
98. Kefas B, Godlewski J, Comeau L, Li Y, Abounader R, Hawkinson M, Lee J, Fine H, Chiocca EA, Lawler S, Purow B. microRNA-7 inhibits the epidermal growth factor receptor and the Akt pathway and is down-regulated in glioblastoma. *Cancer Res*. 2008;68(10):3566-72.
99. Johnson H, Del Rosario AM, Bryson BD, Schroeder MA, Sarkaria JN, White FM. Molecular characterization of EGFR and EGFRvIII signaling networks in human glioblastoma tumor xenografts. *Mol Cell Proteomics*. 2012;11(12):1724-40. PMID: 3518138.
100. Huvelde D, Lewis-Tuffin LJ, Carlson BL, Schroeder MA, Rodriguez F, Giannini C, Galanis E, Sarkaria JN, Anastasiadis PZ. Targeting Src family kinases inhibits bevacizumab-induced glioma cell invasion. *PloS one*. 2013;8(2):e56505. PMID: 3572988.

101. Higgins DM, Wang R, Milligan B, Schroeder M, Carlson B, Pokorny J, Cheshier SH, Meyer FB, Weissman IL, Sarkaria JN, Henley JR. Brain tumor stem cell multipotency correlates with nanog expression and extent of passaging in human glioblastoma xenografts. *Oncotarget*. 2013;4(5):792-801. PMID: 3742839.
102. Hashizume R, Ozawa T, Dinca EB, Banerjee A, Prados MD, James CD, Gupta N. A human brainstem glioma xenograft model enabled for bioluminescence imaging. *J Neurooncol*. 2010;96(2):151-9. PMID: 2808534.
103. Hamed HA, Yacoub A, Park MA, Eulitt PJ, Dash R, Sarkar D, Dmitriev IP, Lesniak MS, Shah K, Grant S, Curiel DT, Fisher PB, Dent P. Inhibition of multiple protective signaling pathways and Ad.5/3 delivery enhances mda-7/IL-24 therapy of malignant glioma. *Mol Ther*. 2010;18(6):1130-42. PMID: 2889737.
104. Gupta SK, Mladek AC, Carlson BL, Boakye-Agyeman F, Bakken KK, Kizilbash SH, Schroeder MA, Reid J, Sarkaria JN. Discordant in vitro and in vivo chemopotentiating effects of the PARP inhibitor veliparib in temozolomide-sensitive versus -resistant glioblastoma multiforme xenografts. *Clinical cancer research : an official journal of the American Association for Cancer Research*. 2014;20(14):3730-41. PMID: 4111895.
105. Guo D, Reinitz F, Youssef M, Hong C, Nathanson D, Akhavan D, Kuga D, Amzajerdi AN, Soto H, Zhu S, Babic I, Tanaka K, Dang J, Iwanami A, Gini B, Dejesus J, Lisiero DD, Huang TT, Prins RM, Wen PY, Robins HI, Prados MD, Deangelis LM, Mellinghoff IK, Mehta MP, James CD, Chakravarti A, Cloughesy TF, Tontonoz P, Mischel PS. An LXR agonist promotes glioblastoma cell death through inhibition of an EGFR/AKT/SREBP-1/LDLR-dependent pathway. *Cancer discovery*. 2011;1(5):442-56. PMID: 3207317.
106. Guessous F, Zhang Y, diPierro C, Marcinkiewicz L, Sarkaria J, Schiff D, Buchanan S, Abounader R. An orally bioavailable c-Met kinase inhibitor potently inhibits brain tumor malignancy and growth. *Anticancer Agents Med Chem*. 2010;10(1):28-35. PMID: 3278215.
107. Guessous F, Alvarado-Velez M, Marcinkiewicz L, Zhang Y, Kim J, Heister S, Kefas B, Godlewski J, Schiff D, Purow B, Abounader R. Oncogenic effects of miR-10b in glioblastoma stem cells. *J Neurooncol*. 2013;112(2):153-63. PMID: 3609924.
108. Giannini C, Sarkaria JN, Saito A, Uhm JH, Galanis E, Carlson BL, Schroeder MA, James CD. Patient tumor EGFR and PDGFRA gene amplifications retained in an invasive intracranial xenograft model of glioblastoma multiforme. *Neuro-oncology*. 2005;7(2):164-76. PMID: 1871885.
109. Friedman GK, Langford CP, Coleman JM, Cassady KA, Parker JN, Markert JM, Yancey Gillespie G. Engineered herpes simplex viruses efficiently infect and kill CD133+ human glioma xenograft cells that express CD111. *J Neurooncol*. 2009;95(2):199-209. PMID: PMC4574288

110. Feng H, Hu B, Vuori K, Sarkaria JN, Furnari FB, Cavenee WK, Cheng SY. EGFRvIII stimulates glioma growth and invasion through PKA-dependent serine phosphorylation of Dock180. *Oncogene*. 2014;33(19):2504-12. PMID: 3883905.
111. Emdad L, Sarkar D, Lee SG, Su ZZ, Yoo BK, Dash R, Yacoub A, Fuller CE, Shah K, Dent P, Bruce JN, Fisher PB. Astrocyte elevated gene-1: a novel target for human glioma therapy. *Molecular cancer therapeutics*. 2010;9(1):79-88. PMID: 3165052.
112. Dinca EB, Sarkaria JN, Schroeder MA, Carlson BL, Voicu R, Gupta N, Berger MS, James CD. Bioluminescence monitoring of intracranial glioblastoma xenograft: response to primary and salvage temozolomide therapy. *J Neurosurg*. 2007;107(3):610-6.
113. Dinca EB, Lu KV, Sarkaria JN, Pieper RO, Prados MD, Haas-Kogan DA, Vandenberg SR, Berger MS, James CD. p53 Small-molecule inhibitor enhances temozolomide cytotoxic activity against intracranial glioblastoma xenografts. *Cancer Res*. 2008;68(24):10034-9. PMID: 2987557.
114. Clarke MJ, Mulligan EA, Grogan PT, Mladek AC, Carlson BL, Schroeder MA, Curtin NJ, Lou Z, Decker PA, Wu W, Plummer ER, Sarkaria JN. Effective sensitization of temozolomide by ABT-888 is lost with development of temozolomide resistance in glioblastoma xenograft lines. *Molecular cancer therapeutics*. 2009;8(2):407-14. PMID: 2692390.
115. Chaumeil MM, Gini B, Yang HJ, Iwanami A, Sukumar S, Ozawa T, Pieper RO, Mischel PS, James CD, Berger MS, Ronen SM. Longitudinal evaluation of MPIO-labeled stem cell biodistribution in glioblastoma using high resolution and contrast-enhanced MR imaging at 14.1Tesla. *Neuro-oncology*. 2012;14(8):1050-61. PMID: PMC3408258
116. Cen L, Carlson BL, Schroeder MA, Ostrem JL, Kitange GJ, Mladek AC, Fink SR, Decker PA, Wu W, Kim JS, Waldman T, Jenkins RB, Sarkaria JN. p16-Cdk4-Rb axis controls sensitivity to a cyclin-dependent kinase inhibitor PD0332991 in glioblastoma xenograft cells. *Neuro-oncology*. 2012;14(7):870-81. PMID: 3379801.
117. Cen L, Carlson BL, Pokorny JL, Mladek AC, Grogan PT, Schroeder MA, Decker PA, Anderson SK, Giannini C, Wu W, Ballman KV, Kitange GJ, Sarkaria JN. Efficacy of protracted temozolomide dosing is limited in MGMT unmethylated GBM xenograft models. *Neuro-oncology*. 2013;15(6):735-46. PMID: 3661094.
118. Carlson BL, Pokorny JL, Schroeder MA, Sarkaria JN. Establishment, maintenance and in vitro and in vivo applications of primary human glioblastoma multiforme (GBM) xenograft models for translational biology studies and drug discovery. *Curr Protoc Pharmacol*. 2011;Chapter 14:Unit 14 6. PMID: 3129784.
119. Carlson BL, Grogan PT, Mladek AC, Schroeder MA, Kitange GJ, Decker PA, Giannini C, Wu W, Ballman KA, James CD, Sarkaria JN. Radiosensitizing effects of temozolomide observed in vivo only in a subset of O6-methylguanine-DNA methyltransferase methylated

glioblastoma multiforme xenografts. *Int J Radiat Oncol Biol Phys*. 2009;75(1):212-9. PMID: 2773462.

120. Candolfi M, Xiong W, Yagiz K, Liu C, Muhammad AK, Puntel M, Foulad D, Zadmehr A, Ahlzadeh GE, Kroeger KM, Tesarfreund M, Lee S, Debinski W, Sareen D, Svendsen CN, Rodriguez R, Lowenstein PR, Castro MG. Gene therapy-mediated delivery of targeted cytotoxins for glioma therapeutics. *Proc Natl Acad Sci U S A*. 2010;107(46):20021-6. PMID: 2993419.
121. Bryan L, Paugh BS, Kapitonov D, Wilczynska KM, Alvarez SM, Singh SK, Milstien S, Spiegel S, Kordula T. Sphingosine-1-phosphate and interleukin-1 independently regulate plasminogen activator inhibitor-1 and urokinase-type plasminogen activator receptor expression in glioblastoma cells: implications for invasiveness. *Mol Cancer Res*. 2008;6(9):1469-77. PMID: 2587039.
122. Booth L, Roberts JL, Cruickshanks N, Grant S, Poklepovic A, Dent P. Regulation of OSU-03012 toxicity by ER stress proteins and ER stress inducing drugs. *Molecular cancer therapeutics*. 2014. PMID: PMC4185238
123. Allen C, Vongpunsawad S, Nakamura T, James CD, Schroeder M, Cattaneo R, Giannini C, Krempsi J, Peng KW, Goble JM, Uhm JH, Russell SJ, Galanis E. Retargeted oncolytic measles strains entering via the EGFRvIII receptor maintain significant antitumor activity against gliomas with increased tumor specificity. *Cancer Res*. 2006;66(24):11840-50.
124. Allen C, Paraskevakou G, Iankov I, Giannini C, Schroeder M, Sarkaria J, Puri RK, Russell SJ, Galanis E. Interleukin-13 displaying retargeted oncolytic measles virus strains have significant activity against gliomas with improved specificity. *Mol Ther*. 2008;16(9):1556-64. PMID: 2748750.
125. Allen C, Opyrchal M, Aderca I, Schroeder MA, Sarkaria JN, Domingo E, Federspiel MJ, Galanis E. Oncolytic measles virus strains have significant antitumor activity against glioma stem cells. *Gene Ther*. 2013;20(4):444-9. PMID: 3509233.
126. Akhavan D, Pourzia AL, Nourian AA, Williams KJ, Nathanson D, Babic I, Villa GR, Tanaka K, Nael A, Yang H, Dang J, Vinters HV, Yong WH, Flagg M, Tamanoi F, Sasayama T, James CD, Kornblum HI, Cloughesy TF, Cavenee WK, Bensinger SJ, Mischel PS. De-repression of PDGFRbeta transcription promotes acquired resistance to EGFR tyrosine kinase inhibitors in glioblastoma patients. *Cancer discovery*. 2013;3(5):534-47. PMID: 3651754.
127. Ahmed AU, Thaci B, Tobias AL, Auffinger B, Zhang L, Cheng Y, Kim CK, Yunis C, Han Y, Alexiades NG, Fan X, Aboody KS, Lesniak MS. A preclinical evaluation of neural stem cell-based cell carrier for targeted anti-glioma oncolytic virotherapy. *J Natl Cancer Inst*. 2013;105(13):968-77. PMID: 3699440.

128. Agnihotri S, Gajadhar AS, Ternamian C, Gorlia T, Diefes KL, Mischel PS, Kelly J, McGown G, Thorncroft M, Carlson BL, Sarkaria JN, Margison GP, Aldape K, Hawkins C, Hegi M, Guha A. Alkylpurine-DNA-N-glycosylase confers resistance to temozolomide in xenograft models of glioblastoma multiforme and is associated with poor survival in patients. *The Journal of clinical investigation*. 2012;122(1):253-66. PMID: 3248301.