

Oncology

de Oliveira Freitas Machado C, Schafranek M, Brüggemann M, Hernández Cañas MC, Keller M, Di Liddo A, Brezski A, Blümel N, Arnold B, Bremm A, Wittig I, Jaé N, McNicoll F, Dimmeler S, Zarnack K, Müller-McNicoll M. Poison cassette exon splicing of SRSF6 regulates nuclear speckle dispersal and the response to hypoxia. *Nucleic Acids Res.* 2023 Jan 25;51(2):870-890. doi: 10.1093/nar/gkac1225. PMID: 36620874; PMCID: PMC9881134

Wajzman, Anna & Machnik, Grzegorz & Linnebacher, Michael & Linnebacher, Christina & Obuchowicz, Ewa. (2023). Cancer- related protein profile of patient-derived and commercial glioblastoma cell lines exposed to Temozolomide. Research Square 10.21203/rs.3.rs-2782714/v1.

Haupt V, Gündel D, Prell E, Kahnt M, Sommerwerk S, Riemann A, Paschke R, Csuk R, Odparlik A, Thews O. Evaluation of Betulinic Acid Derivatives as PET Tracers for Hypoxia-Induced Carbonic Anhydrase IX (CA IX) Expression. *Adv Exp Med Biol.* 2022;1395: 275-280. doi: 10.1007/978-3-031-14190-4_45. PMID: 36527649

Aiyappa-Maudsley R, Elsalem L, Ibrahim AIM, Pors K, Martin SG (2022). In vitro radiosensitization of breast cancer with hypoxia-activated prodrugs. *J Cell Mol Med.* 2022 Aug;26(16):4577-4590. doi: 10.1111/jcmm.17486. Epub 2022 Jul 16. PMID: 35841287; PMCID: PMC9357624

Cooper CR, Jones D, Jones GD, Petersson K (2022). FLASH irradiation induces lower levels of DNA damage ex vivo, an effect modulated by oxygen tension, dose, and dose rate. *Br J Radiol.* 2022 May 1;95(1133):20211150. doi: 10.1259/bjr.20211150. Epub 2022 Feb 16. PMID: 35171701

Malier M, Gharzeddine K, Laverriere MH, Marsili S, Thomas F, Court M, Decaens T, Roth G, Millet A (2022). Correction: Hypoxia drives dihydropyrimidine dehydrogenase expression in macrophages and confers chemoresistance in colorectal cancer. *Cancer Res.* 2022 Apr 1;82(7):1436. doi: 10.1158/0008-5472.CAN-22-0398. Erratum for: *Cancer Res.* 2021 Dec 1;81(23):5963-5976. PMID: 35373293. (2022 Correction of article before Dec. 2021, 2020)

Rauschner M, Lange L, Hüsing T, Reime S, Nolze A, Maschek M, Thews O, Riemann A (2021). Impact of the acidic environment on gene expression and functional parameters of tumors in vitro and in vivo. *J Exp Clin Cancer Res.* 2021 Jan 6;40(1):10. doi: 10.1186/s13046-020-01815-4. PMID: 33407762; PMCID: PMC7786478

Maury P, Porcel E, Mau A, Lux F, Tillement O, Mahou P, Schanne-Klein MC, Lacombe S (2021). Rapid evaluation of novel therapeutic strategies using a 3D collagen-based tissue-like model. *Front Bioeng Biotechnol.* 2021 Feb 16;9: 574035. doi: 10.3389/fbioe.2021.574035. PMID: 33681152; PMCID: PMC7929985

Riemann A, Reime S, Thews O (2019). Acidic extracellular environment affects miRNA expression in tumors in vitro and in vivo. *Int J Cancer.* 2019 Apr 1;144(7):1609-1618. doi: 10.1002/ijc.31790. Epub 2018 Dec 18. PMID: 30098207

Mahalingam SM, Chu H, Liu X, Leamon CP, and Low PS (2018). Carbonic Anhydrase IX-Targeted Near-Infrared Dye for Fluorescence Imaging of Hypoxic Tumors. *Bioconjugate Chem.* 2018, 29, 10, 3320–3331

Riemann A, Güttler A, Haupt V, Wichmann H, Reime S, Bache M, Vordermark D, Thews O (2018). Inhibition of carbonic anhydrase IX by ureidosulfonamide inhibitor U104 reduces prostate cancer cell growth but does not modulate daunorubicin or cisplatin cytotoxicity. *Oncol Res.* 2018 Mar 5;26(2):191-200. doi: 10.3727/096504017X14965111926391. Epub 2017 Jun 19. PMID: 28631600; PMCID: PMC7844713

Riemann A, Reime S, Thews O (2017). Tumor acidosis and hypoxia differently modulate the inflammatory program: measurements in vitro and in vivo. *Neoplasia.* 2017 Dec;19(12):1033-1042. doi: 10.1016/j.neo.2017.09.005. Epub 2017 Nov 14. PMID: 29149667; PMCID: PMC5695649

Immunology

Robb KP, Audet J, Gandhi R and Viswanathan S (2022). Putative critical quality attribute matrix identifies mesenchymal stromal cells with potent immunomodulatory and angiogenic “fitness” ranges in response to culture process parameters. *Front. Immunol.*, Nov 2022, <https://doi.org/10.3389/fimmu.2022.972095>

Mallet C, Cochard J, Leclercq S, Trapp-Fragnet L, Chouteau P, Denesvre C (2022). Hypoxia and HIF-1 Trigger Marek's Disease Virus Reactivation in Lymphoma-Derived Latently Infected T Lymphocytes. *J Virol.* 2022 Mar 9;96(5): e0142721. doi: 10.1128/JVI.01427-21. Epub 2021 Dec 22. PMID: 34936483; PMCID: PMC8906438

Cochard J, Bull-Maurer A, Tauber C, Burlaud-Gaillard J, Mazurier F, Meunier JC, Roingeard P, Chouteau P (2021). Differentiated Cells in Prolonged Hypoxia Produce Highly Infectious Native-Like Hepatitis C Virus Particles. *Hepatology.* 2021 Aug;74(2):627-640. doi: 10.1002/hep.31788. Epub 2021 Jun 15. PMID: 33665810

Court M, Malier M, Millet A (2019). Proteomic Analysis of Human Macrophage Polarization Under a Low Oxygen Environment. *J Vis Exp.* 2019 Jan 7;(143). doi: 10.3791/58727. PMID: 30663715

Kulkarni A, Mateus M, Thinnes CC, McCullagh JS, Schofield CJ, Taylor GP, Bangham CRM (2017). Glucose Metabolism and Oxygen Availability Govern Reactivation of the Latent Human Retrovirus HTLV-1. *Cell Chem Biol.* 2017 Nov 16;24(11):1377-1387.e3. doi: 10.1016/j.chembiol.2017.08.016. Epub 2017 Sep 28. PMID: 28965728; PMCID: PMC5696563

Other (mammalian)

Eisenbeis VB, Qiu D, Gorka O, Strotmann L, Liu G, Prucker I, Su XB, Wilson MSC, Ritter K, Loenarz C, Groß O, Saardi A, Jessen HJ. β -lapachone regulates mammalian inositol pyrophosphate levels in an NQO1- and oxygen-dependent manner. *Proc Natl Acad Sci U S A.* 2023 Aug 22;120(34): e2306868120. doi: 10.1073/pnas.2306868120. Epub 2023 Aug 14. PMID: 37579180; PMCID: PMC10450438.

Smith, Poppy O; Trueman, ryan; Powell, Rebecca; Gregory, Holly; Phillips, James; Bohnhorst, Patrizia; Rayner, Melissa; (2023) Exploring the Effect of Vitamins B1, B6 and B12 on Neurite Regeneration using a 3D Co-Culture Model of Neurodegeneration. *International Journal of Physical Medicine and Rehabilitation* 10.35248/2329-9096.23.11.667

Michno, Wojciech M., et al. Adrenomedullin promotes interneuron migration in a dual human model for hypoxic interneuronopathy of prematurity. *bioRxiv* (2023): 2023-05

Mohamed H, Ghith A, Bell SG. The binding of nitrogen-donor ligands to the ferric and ferrous forms of cytochrome P450 enzymes. *J Inorg Biochem.* 2023 May;242: 112168. doi: 10.1016/j.jinorgbio.2023.112168. Epub 2023 Feb 26. PMID: 36870164

Tregub P, Malinovskaya N, Hilazheva E, Morgun A, Kulikov V. Permissive hypercapnia and hypercapnic hypoxia inhibit signaling pathways of neuronal apoptosis in ischemic/hypoxic rats. *Mol Biol Rep.* 2022 Dec 28. doi: 10.1007/s11033-022-08212-4. Epub ahead of print. PMID: 36575322

Tregub PP, Malinovskaya NA, Osipova ED, Morgun AV, Kulikov VP, Kuzovkov DA (2022). Hypercapnia Modulates the activity of adenosine A1 receptors and mitoK_{ATP} channels in rat brain when exposed to intermittent hypoxia. *Neuromolecular Med.* 2022 Jun;24(2):155-168. doi: 10.1007/s12017-021-08672-0. Epub 2021 Jun 11. PMID: 34115290

Eleftheriadou D, Berg M, Phillips JB, Shipley RJ (2022). A combined experimental and computational framework to evaluate the behavior of therapeutic cells for peripheral nerve regeneration. *Biotechnol Bioeng.* 2022 Jul;119(7):1980-1996. doi: 10.1002/bit.28105. Epub 2022 May 2. PMID: 35445744; PMCID: PMC9323509

Scrivner O, Ismael A, Kumar MR, Sorokolet K, Koutakis P, Farmer PJ (2021). Expanding the reactive sulfur metabolome: intracellular and efflux measurements of small oxoacids of sulfur (SOS) and H₂S in human primary vascular cell culture. *Molecules.* 2021 Nov 26;26(23):7160. doi: 10.3390/molecules26237160. PMID: 34885743; PMCID: PMC8659008

Lu B, Zhu Z, Sheng L, Li Y, Yang Y, Chen Y, Xue D, Zhou Y, Cai W, Chen C, Wei C, Xu D, Yan M, Lin S, Yan G, Yin W (2020). SMARCB1 Promotes ubiquitination and degradation of NR4A3 via direct interaction driven by ROS in vascular endothelial cell injury. *Oxid Med Cell Longev.* 2020 Oct 23;2020: 2048210. doi: 10.1155/2020/2048210. PMID: 33163142; PMCID: PMC7604603

Kozlov AM, Lone A, Betts DH, Cumming RC (2020). Lactate preconditioning promotes a HIF-1 α -mediated metabolic shift from OXPHOS to glycolysis in normal human diploid fibroblasts. *Sci Rep.* 2020 May 20;10(1):8388. doi: 10.1038/s41598-020-65193-9. PMID: 32433492; PMCID: PMC7239882

Tregub PP, Malinovskaya NA, Morgun AV, Osipova ED, Kulikov VP, Kuzovkov DA, Kovzelev PD (2020). Hypercapnia potentiates HIF-1 α activation in the brain of rats exposed to intermittent hypoxia. *Respir Physiol Neurobiol.* 2020 Jul;278: 103442. doi: 10.1016/j.resp.2020.103442. Epub 2020 Apr 17. PMID: 32305676

Lu B, Zhu Z, Sheng L, Li Y, Yang Y, Chen Y, Xue D, Zhou Y, Cai W, Chen C, Wei C, Xu D, Yan M, Lin S, Yan G, Yin W. SMARCB1 Promotes Ubiquitination and Degradation of NR4A3 via Direct Interaction Driven by ROS in Vascular Endothelial Cell Injury. *Oxid Med Cell Longev.* 2020 Oct 23;2020: 2048210. doi: 10.1155/2020/2048210. PMID: 33163142; PMCID: PMC7604603

Leduc-Galindo D, Qvist P, Tóth AE, Fryland T, Nielsen MS, Børglum AD, Christensen JH (2019). The effect of hypoxia on ZEB1 expression in a mimetic system of the blood-brain barrier. *Microvasc Res.* 2019 Mar; 122:131-135. doi: 10.1016/j.mvr.2018.08.004. Epub 2018 Aug 23. PMID: 30144413

Plant research

Arasimowicz-Jelonek, M., Floryszak-Wieczorek, J., Suarez, S. et al. Discovery of endogenous nitroxyl as a new redox player in *Arabidopsis thaliana*. *Nat. Plants* (2022). <https://doi.org/10.1038/s41477-022-01301-z>