

Environmental

[Lignin induced iron reduction by novel sp., *Tolomonas lignolytic* BRL6-1](#)

Gina Chaput, Andrew F. Billings, Lani DeDiego, Roberto Orellana, Joshua N. Adkins, Carrie D. Nicora, Young-Mo Kim, Rosalie Chu, Blake Simmons, Kristen M. DeAngelis
PLoS One. 2020; 15(9): e0233823. Published online 2020 Sep 17. doi: 10.1371/journal.pone.0233823
PMCID: PMC7497984

[Community ecology of hot spring cyanobacterial mats: predominant populations and their functional potential](#)

Christian G Klatt, Jason M Wood, Douglas B Rusch, Mary M Bateson, Natsuko Hamamura, John F Heidelberg, Arthur R Grossman, Devaki Bhaya, Frederick M Cohan, Michael K hl, Donald A Bryant, David M Ward
ISME J. 2011 Aug; 5(8): 1262–1278. Published online 2011 Jun 23. doi: 10.1038/ismej.2011.73
PMCID: PMC3146275

[Proteomic and Transcriptomic Analyses of “*Candidatus Pelagibacter ubique*” Describe the First P_{II}-Independent Response to Nitrogen Limitation in a Free-Living Alphaproteobacterium](#)

Daniel P. Smith, J. Cameron Thrash, Carrie D. Nicora, Mary S. Lipton, Kristin E. Burnum-Johnson, Paul Carini, Richard D. Smith, Stephen J. Giovannoni
mBio. 2013 Nov-Dec; 4(6): e00133-12. Published online 2013 Nov 26. doi: 10.1128/mBio.00133-12
PMCID: PMC3870248

[Vibrio natriegens genome-scale modeling reveals insights into halophilic adaptations and resource allocation](#)

Lucas Coppens, Tanya Tschirhart, Dagmar H Leary, Sophie M Colston, Jaimee R Compton, William Judson Hervey, IV, Karl L Dana, Gary J Vora, Sergio Bordel, Rodrigo Ledesma-Amaro
Mol Syst Biol. 2023 Apr; 19(4): e10523. Published online 2023 Feb 27. doi: 10.15252/msb.202110523
PMCID: PMC10090949

[Biomonitoring of ambient outdoor air pollutant exposure in humans using targeted serum albumin adductomics](#)

Joshua W. Smith, Robert N. O’Meally, Derek K. Ng, Jian-Guo Chen, Thomas W. Kensler, Robert N. Cole, John D. Groopman
Chem Res Toxicol. Author manuscript; available in PMC 2022 Apr 19.
Published in final edited form as: Chem Res Toxicol. 2021 Apr 19; 34(4): 1183–1196. Published online 2021 Apr 1. doi: 10.1021/acs.chemrestox.1c00055 PMCID: PMC8195033

[Melanin Produced by the Fast-Growing Marine Bacterium *Vibrio natriegens* through Heterologous Biosynthesis: Characterization and Application](#)

Zheng Wang, Tanya Tschirhart, Zachary Schultzhaus, Erin E. Kelly, Amy Chen, Eunkeu Oh, Okhil Nag, Evan R. Glaser, Eunkyong Kim, Pamela F. Lloyd, Paul T. Charles, Weiyao Li, Dagmar Leary, Jaimee Compton, Daniel A. Phillips, Ali Dhinojwala, Gregory F. Payne, Gary J. Vora
Appl Environ Microbiol. 2020 Mar; 86(5): e02749-19. Prepublished online 2019 Dec 13. Published online 2020 Feb 18. doi: 10.1128/AEM.02749-19
PMCID: PMC7028964

[Profiling the serum albumin Cys34 adductome of solid fuel users in Xuanwei and Fuyuan, China](#)

Sixin S. Lu, Hasmik Grigoryan, William M.B. Edmands, Wei Hu, Anthony T. Iavarone, Alan Hubbard, Nathaniel Rothman, Roel Vermeulen, Qing Lan, Stephen M. Rappaport
Environ Sci Technol. Author manuscript; available in PMC 2017 Aug 23. Published in final edited form as:
Environ Sci Technol. 2017 Jan 3; 51(1): 46–57. Published online 2016 Dec 12.
doi: 10.1021/acs.est.6b03955 PMCID: PMC5567851

[Proteogenomic Monitoring of *Geobacter* Physiology during Stimulated Uranium Bioremediation](#)

Michael J. Wilkins, Nathan C. VerBerkmoes, Kenneth H. Williams, Stephen J. Callister, Paula J. Mouser, Hila Elifantz, A. Lucie N'Guessan, Brian C. Thomas, Carrie D. Nicora, Manesh B. Shah, Paul Abraham, Mary S. Lipton, Derek R. Lovley, Robert L. Hettich, Philip E. Long, Jillian F. Banfield
Appl Environ Microbiol. 2009 Oct; 75(20): 6591–6599. Published online 2009 Aug 28.
doi: 10.1128/AEM.01064-09 PMCID: PMC2765142

[A Sandwich ELISA for Measuring Benzo\[a\]pyrene-albumin Adducts in Human Plasma](#)

Ming Kei Chung, Luca Giovanni Regazzoni, Michael McClean, Robert Herrick, Stephen M. Rappaport
Anal Biochem. Author manuscript; available in PMC 2019 Jan 31.
Published in final edited form as: Anal Biochem. 2013 Apr 15; 435(2): 140–149. Published online 2013 Jan 16. doi: 10.1016/j.ab.2012.12.021 PMCID: PMC6354764

[Profiling Cys³⁴ Adducts of Human Serum Albumin by Fixed-Step Selected Reaction Monitoring](#)

He Li, Hasmik Grigoryan, William E. Funk, Sixin Samantha Lu, Sherri Rose, Evan R. Williams, Stephen M. Rappaport
Mol Cell Proteomics. 2011 Mar; 10(3): M110.004606. Published online 2010 Dec 30.
doi: 10.1074/mcp.M110.004606 PMCID: PMC3047157

[Refinement of a Methodology for Untargeted Detection of Serum Albumin Adducts in Human Populations](#)

George W. Preston, Michelle Plusquin, Osman Sozeri, Karin van Veldhoven, Lilian Bastian, Tim S. Nawrot, Marc Chadeau-Hyam, David H. Phillips
Chem Res Toxicol. 2017 Dec 18; 30(12): 2120–2129. Published online 2017 Nov 1.
doi: 10.1021/acs.chemrestox.7b00186 PMCID: PMC5736992

[Using lysine adducts of human serum albumin to investigate the disposition of exogenous formaldehyde in human blood](#)

Luca G. Regazzoni, Hasmik Grigoryan, Zhiying Ji, Xi Chen, Sarah I. Daniels, Deyin Huang, Sylvia Sanchez, Naijun Tang, Fenna C. M. Sillé, Anthony T. Iavarone, Evan R. Williams, Luoping Zhang, Stephen M. Rappaport
Toxicol Lett. Author manuscript; available in PMC 2017 Aug 14.
Published in final edited form as: Toxicol Lett. 2017 Feb 15; 268: 26–35. Published online 2017 Jan 16.
doi: 10.1016/j.toxlet.2017.01.002 PMCID: PMC5555303

[Evaluation of a Genome-Scale *In Silico* Metabolic Model for *Geobacter metallireducens* by Using Proteomic Data from a Field Biostimulation Experiment](#)

Yilin Fang, Michael J. Wilkins, Steven B. Yabusaki, Mary S. Lipton, Philip E. Long

Appl Environ Microbiol. 2012 Dec; 78(24): 8735–8742. doi: 10.1128/AEM.01795-12
PMCID: PMC3502914

[Metagenome, metatranscriptome and single-cell sequencing reveal microbial response to Deepwater Horizon oil spill](#)

Olivia U Mason, Terry C Hazen, Sharon Borglin, Patrick S G Chain, Eric A Dubinsky, Julian L Fortney, James Han, Hoi-Ying N Holman, Jenni Hultman, Regina Lamendella, Rachel Mackelprang, Stephanie Malfatti, Lauren M Tom, Susannah G Tringe, Tanja Woyke, Jizhong Zhou, Edward M Rubin, Janet K Jansson
ISME J. 2012 Sep; 6(9): 1715–1727. Published online 2012 Jun 21. doi: 10.1038/ismej.2012.59
PMCID: PMC3498917

[Cys34 Adducts of Reactive Oxygen Species in Human Serum Albumin](#)

Hasmik Grigoryan, He Li, Anthony T. Iavarone, Evan R. Williams, Stephen M. Rappaport
Chem Res Toxicol. Author manuscript; available in PMC 2016 Feb 23.
Published in final edited form as: Chem Res Toxicol. 2012 Aug 20; 25(8): 1633–1642. Published online 2012 May 31. doi: 10.1021/tx300096a PMCID: PMC4763613

[Development of a biomarker for Geobacter activity and strain composition; proteogenomic analysis of the citrate synthase protein during bioremediation of U\(VI\).](#)

Wilkins MJ, Callister SJ, Miletto M, Williams KH, Nicora CD, Lovley DR, Long PE, Lipton MS. Microb Biotechnol. 2011 Jan;4(1):55-63. doi: 10.1111/j.1751-7915.2010.00194.x. PMID: 21255372

[Synergistic Effects of Nisin, Lysozyme, Lactic Acid, and Citricidal™ for Enhancing Pressure-Based Inactivation of *Bacillus amyloliquefaciens*, *Geobacillus stearothermophilus*, and *Bacillus atrophaeus* Endospores.](#)

Aras S, Kabir N, Wadood S, George J, Chowdhury S, Fouladkhah AC. Microorganisms. 2021 Mar 21;9(3):653. doi: 10.3390/microorganisms9030653. PMID: 33801094

[Sensitivity of Planktonic Cells of *Staphylococcus aureus* to Elevated Hydrostatic Pressure as Affected by Mild Heat, Carvacrol, Nisin, and Caprylic Acid.](#)

George J, Aras S, Kabir MN, Wadood S, Chowdhury S, Fouladkhah AC. Int J Environ Res Public Health. 2020 Sep 25;17(19):7033. doi: 10.3390/ijerph17197033. PMID: 32993008

[Fate and Biofilm Formation of Wild-Type and Pressure-Stressed Pathogens of Public Health Concern in Surface Water and on Abiotic Surfaces.](#)

Kabir MN, Aras S, Wadood S, Chowdhury S, Fouladkhah AC. Microorganisms. 2020 Mar 13;8(3):408. doi: 10.3390/microorganisms8030408. PMID: 32183203

[Adductomics Pipeline for Untargeted Analysis of Modifications to Cys34 of Human Serum Albumin.](#)

Grigoryan H, Edmands W, Lu SS, Yano Y, Regazzoni L, Iavarone AT, Williams ER, Rappaport SM. Anal Chem. 2016 Nov 1;88(21):10504-10512. doi: 10.1021/acs.analchem.6b02553. Epub 2016 Oct 10. PMID: 27684351

[Cys34 Adductomes Differ between Patients with Chronic Lung or Heart Disease and Healthy Controls in Central London.](#)

Liu S, Grigoryan H, Edmands WMB, Dagnino S, Sinharay R, Cullinan P, Collins P, Chung KF, Barratt B, Kelly FJ, Vineis P, Rappaport SM. *Environ Sci Technol*. 2018 Feb 20;52(4):2307-2313. doi: 10.1021/acs.est.7b05554. Epub 2018 Feb 2. PMID: 29350914

[Using lysine adducts of human serum albumin to investigate the disposition of exogenous formaldehyde in human blood.](#)

Regazzoni LG, Grigoryan H, Ji Z, Chen X, Daniels SI, Huang D, Sanchez S, Tang N, Sillé FC, Iavarone AT, Williams ER, Zhang L, Rappaport SM. *Toxicol Lett*. 2017 Feb 15;268:26-35. doi: 10.1016/j.toxlet.2017.01.002. Epub 2017 Jan 16. PMID: 28104429

[Relationships between airborne pollutants, serum albumin adducts and short-term health outcomes in an experimental crossover study.](#)

Preston GW, Dagnino S, Ponzi E, Sozeri O, van Veldhoven K, Barratt B, Liu S, Grigoryan H, Lu SS, Rappaport SM, Chung KF, Cullinan P, Sinharay R, Kelly FJ, Chadeau-Hyam M, Vineis P, Phillips DH. *Chemosphere*. 2020 Jan;239:124667. doi: 10.1016/j.chemosphere.2019.124667. Epub 2019 Aug 24. PMID: 31499299

[Untargeted adductomics of newborn dried blood spots identifies modifications to human serum albumin associated with childhood leukemia.](#)

Yano Y, Schiffman C, Grigoryan H, Hayes J, Edmands W, Petrick L, Whitehead T, Metayer C, Dudoit S, Rappaport S. *Leuk Res*. 2020 Jan;88:106268. doi: 10.1016/j.leukres.2019.106268. Epub 2019 Nov 6. PMID: 31760269

[Untargeted adductomics of Cys34 modifications to human serum albumin in newborn dried blood spots.](#)

Yano Y, Grigoryan H, Schiffman C, Edmands W, Petrick L, Hall K, Whitehead T, Metayer C, Dudoit S, Rappaport S. *Anal Bioanal Chem*. 2019 Apr;411(11):2351-2362. doi: 10.1007/s00216-019-01675-8. Epub 2019 Feb 19. PMID: 30783713

[Cys34 adducts of reactive oxygen species in human serum albumin.](#)

Grigoryan H, Li H, Iavarone AT, Williams ER, Rappaport SM. *Chem Res Toxicol*. 2012 Aug 20;25(8):1633-42. doi: 10.1021/tx300096a. Epub 2012 May 31. PMID: 22591159

[Profiling the Serum Albumin Cys34 Adductome of Solid Fuel Users in Xuanwei and Fuyuan, China.](#)

Lu SS, Grigoryan H, Edmands WM, Hu W, Iavarone AT, Hubbard A, Rothman N, Vermeulen R, Lan Q, Rappaport SM. *Environ Sci Technol*. 2017 Jan 3;51(1):46-57. doi: 10.1021/acs.est.6b03955. Epub 2016 Dec 12. PMID: 27936627

[Profiling Cys34 adducts of human serum albumin by fixed-step selected reaction monitoring.](#)

Li H, Grigoryan H, Funk WE, Lu SS, Rose S, Williams ER, Rappaport SM. *Mol Cell Proteomics*. 2011 Mar;10(3):M110.004606. doi: 10.1074/mcp.M110.004606. Epub 2010 Dec 30. PMID: 21193536

[Extending the HSA-Cys34-Adductomics Pipeline to Modifications at Lys525.](#)

Grigoryan H, Imani P, Dudoit S, Rappaport SM. *Chem Res Toxicol*. 2021 Dec 20;34(12):2549-2557. doi: 10.1021/acs.chemrestox.1c00311. Epub 2021 Nov 17. PMID: 34788011

[Exposure to diesel engine exhaust and alterations to the Cys34/Lys525 adductome of human serum albumin.](#)

Wong JYY, Imani P, Grigoryan H, Bassig BA, Dai Y, Hu W, Blechter B, Rahman ML, Ji BT, Duan H, Niu Y, Ye M, Jia X, Meng T, Bin P, Downward G, Meliefste K, Leng S, Fu W, Yang J, Ren D, Xu J, Zhou B, Hosgood HD, Vermeulen R, Zheng Y, Silverman DT, Rothman N, Rappaport SM, Lan Q. *Environ Toxicol Pharmacol*. 2022 Oct;95:103966. doi: 10.1016/j.etap.2022.103966. Epub 2022 Sep 5. PMID: 36067935

[Adductomic signatures of benzene exposure provide insights into cancer induction.](#)

Grigoryan H, Edmands WMB, Lan Q, Carlsson H, Vermeulen R, Zhang L, Yin SN, Li GL, Smith MT, Rothman N, Rappaport SM. *Carcinogenesis*. 2018 May 3;39(5):661-668. doi: 10.1093/carcin/bgy042. PMID: 29538615

[HSA Adductomics Reveals Sex Differences in NHL Incidence and Possible Involvement of Microbial Translocation.](#)

Grigoryan H, Imani P, Sacerdote C, Masala G, Grioni S, Tumino R, Chiodini P, Dudoit S, Vineis P, Rappaport SM. *Cancer Epidemiol Biomarkers Prev*. 2023 Sep 1;32(9):1217-1226. doi: 10.1158/1055-9965.EPI-23-0231. PMID: 37409972

[Cys34 Adductomics Links Colorectal Cancer with the Gut Microbiota and Redox Biology.](#)

Grigoryan H, Schiffman C, Gunter MJ, Naccarati A, Polidoro S, Dagnino S, Dudoit S, Vineis P, Rappaport SM. *Cancer Res*. 2019 Dec 1;79(23):6024-6031. doi: 10.1158/0008-5472.CAN-19-1529. Epub 2019 Oct 22. PMID: 31641032

[Antibody enrichment and mass spectrometry of albumin-Cys34 adducts.](#)

Chung MK, Grigoryan H, Iavarone AT, Rappaport SM. *Chem Res Toxicol*. 2014 Mar 17;27(3):400-7. doi: 10.1021/tx400337k. Epub 2013 Dec 24. PMID: 24328277

[Agnostic Cys34-albumin adductomics and DNA methylation: Implication of N-acetylcysteine in lung carcinogenesis years before diagnosis.](#)

Dagnino S, Bodinier B, Grigoryan H, Rappaport SM, Karimi M, Guida F, Polidoro S, Edmands WB, Naccarati A, Fiorito G, Sacerdote C, Krogh V, Vermeulen R, Vineis P, Chadeau-Hyam M. *Int J Cancer*. 2020 Jun 15;146(12):3294-3303. doi: 10.1002/ijc.32680. Epub 2019 Oct 31. PMID: 31513294

[Identification of metabolite and protein explanatory variables governing microbiome establishment and re-establishment within a cellulose-degrading anaerobic bioreactor.](#)

Callister SJ, McCue LA, Boaro AA, LaMarche B, White RA 3rd, Brown JM, Ahring BK. *PLoS One*. 2018 Oct 5;13(10):e0204831. doi: 10.1371/journal.pone.0204831. eCollection 2018. PMID: 30289885

[Fluctuations in species-level protein expression occur during element and nutrient cycling in the subsurface.](#)

Wilkins MJ, Wrighton KC, Nicora CD, Williams KH, McCue LA, Handley KM, Miller CS, Giloteaux L, Montgomery AP, Lovley DR, Banfield JF, Long PE, Lipton MS. *PLoS One*. 2013;8(3):e57819. doi: 10.1371/journal.pone.0057819. Epub 2013 Mar 5. PMID: 23472107

[Proteogenomic analysis of a thermophilic bacterial consortium adapted to deconstruct switchgrass.](#)

D'haeseleer P, Gladden JM, Allgaier M, Chain PS, Tringe SG, Malfatti SA, Aldrich JT, Nicora CD, Robinson EW, Paša-Tolić L, Hugenholtz P, Simmons BA, Singer SW. *PLoS One*. 2013 Jul 19;8(7):e68465. doi: 10.1371/journal.pone.0068465. Print 2013.PMID: 23894306