**Bacteriology/Bacterial Disease**

A. Oladeinde, **Z. Abdo**, M. O. Press, K. Cook, N. A. Cox, B. Zwirzitz, R. Woyda, S. M. Lakin, J. C. Thomas, T. Looft, D. E. Cosby, A. Hinton, J. Guard, E. Line, M. J. Rothrock, M. E. Berrang, K. Herrington, G. Zock, J. P. Lawrence, D. Cudnik, S. House, K. Ingram, L. Lariscy, M. Wagner, S. E. Aggrey, L. L. Chai and C. Ritz. Horizontal Gene Transfer Is the Main Driver of Antimicrobial Resistance in Broiler Chicks Infected with *Salmonella enter*ica Serovar Heidelberg. *mSystems*. 2021;**6**(4). PubMed [PMID: 34427525](https://pubmed.ncbi.nlm.nih.gov/34427525/); PMCID: PMC8409728.

**G. I. Borlee**, S. M. Lakin, M. L. Kapuscinski, Z. Abdo, M. D. Stenglein, P. M. McCue and B. **R. Borl**ee. Complete Genome Sequences of Eight *Streptococcus equi* subsp. *zooepidemicus* Strains Isolated from Mares in Estrus with Endometritis. *Microbiol Resour Announc*. 2021;**10**(26):e0132120. Epub 20210701. PubMed [PMID: 34197198](https://pubmed.ncbi.nlm.nih.gov/34197198/); PMCID: PMC8248867.

S. Louha, R. J. Meinersmann, **Z. Abdo**, M. E. Berrang and T. C. Glenn. An Open-Source Program (Haplo-ST) for Whole-Genome Sequence Typing Shows Extensive Diversity among *Listeria monocytogenes* Isolates in Outdoor Environments and Poultry Processing Plants. *Appl Environ Microbiol*. 2020;**87**(1). Epub 20201217. PubMed [PMID: 33097499](https://pubmed.ncbi.nlm.nih.gov/33097499/); PMCID: PMC7755245.

D. Kiran and **R. J. Basaraba**. Lactate Metabolism and Signaling in Tuberculosis and Cancer: A Comparative Review. *Front Cell Infect Microbiol*. 2021;**11**:624607. Epub 20210226. PubMed [PMID: 33718271](https://pubmed.ncbi.nlm.nih.gov/33718271/); PMCID: PMC7952876.

L. A. Kotze, V. N. Leukes, Z. Fang, M. B. Lutz, **B. L. Fitzgerald**, **J. Belisle**, A. G. Loxton, G. Walzl and N. du Plessis. Evaluation of autophagy mediators in myeloid-derived suppressor cells during human tuberculosis. *Cell Immunol*. 2021;**369**:104426. Epub 20210824. PubMed [PMID: 34469846](https://pubmed.ncbi.nlm.nih.gov/34469846/).

M. K. Muramatsu, J. Zhou, **B. L. Fitzgerald**, R. K. Deka, **J. T. Belisle** and M. V. Norgard. An *rfuABCD*-Like Operon and Its Relationship to Riboflavin Utilization and Mammalian Infectivity by Borrelia burgdorferi. *Infect Immun*. 2021;**89**(10):e0030721. Epub 2021 Jul 12. [PMID: 34310888](https://pubmed.ncbi.nlm.nih.gov/34310888/); PMCID: PMC8445183.

T. Rosa, **M. A. M. Marques**, Z. DeBoard, K. Hutchins, C. A. A. Silva, C. R. Montague, T. Yuan, J. J. Amaral, G. C. Atella, P. S. Rosa, K. A. Mattos, B. C. VanderVen, R. Lahiri, N. S. Sampson, P. J. Brennan, **J. T. Belisle**, M. C. V. Pessolani and M. Berredo-Pinho. Reductive Power Generated by *Mycobacterium leprae* through Cholesterol Oxidation Contributes to Lipid and ATP Synthesis. *Front Cell Infect Microbiol*. 2021;**11**:709972. Epub 20210728. PubMed [PMID: 34395315](https://pubmed.ncbi.nlm.nih.gov/34395315/); PMCID: PMC8355898.

P. R. Hove, F. Magunda, **M. A. de Mello Marques**, **M. N. Islam**, **M. R. Harton**, M. Jackson and **J. T. Belisle**. Identification and functional analysis of a galactosyltransferase capable of cholesterol glycolipid formation in the Lyme disease spirochete *Borrelia burgdorferi*. *PLoS One*. 2021;**16**(6):e0252214. Epub 20210601. PubMed [PMID: 34061884](https://pubmed.ncbi.nlm.nih.gov/34061884/); PMCID: PMC8168883.

B. L. Fitzgerald, **B. Graham**, M. J. Delorey, A. Pegalajar-Jurado, **M. N. Islam**, G. P. Wormser, J. N. Aucott, A. W. Rebman, M. J. Soloski, **J. T. Belisle** and C. R. Molins. Metabolic Response in Patients with Post-treatment Lyme Disease Symptoms/Syndrome. *Clin Infect Dis*. 2021;**73**(7):e2342-e9. PubMed [PMID: 32975577](https://pubmed.ncbi.nlm.nih.gov/32975577/); PMCID: PMC8492154.

I. A. McMillan, M. H. Norris, J. Zarzycki-Siek, Y. Heacock-Kang, Z. Sun, **B. R. Borlee** and T. T. Hoang. Identification of a PadR-type regulator essential for intracellular pathogenesis of *Burkholderia pseudomallei*. *Sci Rep*. 2021;**11**(1):10405. Epub 20210517. PubMed [PMID: 34001967](https://pubmed.ncbi.nlm.nih.gov/34001967/); PMCID: PMC8128862.

E. Ishida, D. T. Corrigan, R. J. Malonis, D. Hofmann, T. Chen, **A. G. Amin**, **D. Chatterjee**, M. Joe, T. L. Lowary, J. R. Lai and J. M. Achkar. Monoclonal antibodies from humans with *Mycobacterium tuberculosis* exposure or latent infection recognize distinct arabinomannan epitopes. *Commun Biol*. 2021;**4**(1):1181. Epub 20211012. PubMed [PMID: 34642445](https://pubmed.ncbi.nlm.nih.gov/34642445/); PMCID: PMC8511196.

P. De, **A. G. Amin**, D. Flores, A. Simpson, **K. Dobos** and **D. Chatterjee**. Structural implications of lipoarabinomannan glycans from global clinical isolates in diagnosis of *Mycobacterium tuberculosis* infection. *J Biol Chem*. 2021;**297**(5):101265. Epub 20210930. PubMed [PMID: 34600887](https://pubmed.ncbi.nlm.nih.gov/34600887/); PMCID: PMC8531672.

Y. Panraksa, A. G. Amin, **B. Graham**, C. S. Henry and **D. Chatterjee**. Immobilization of Proteinase K for urine pretreatment to improve diagnostic accuracy of active tuberculosis. *PLoS One*. 2021;**16**(9):e0257615. Epub 20210921. PubMed [PMID: 34547058](https://pubmed.ncbi.nlm.nih.gov/34547058/); PMCID: PMC8454978.

E. Wallace, D. Hendrickson, N. Tolli, C. Mehaffy, M. Pena, J. A. Nick, P. Knabenbaur, J. Watkins, A. Simpson, **A. G. Amin**, **D. Chatterjee**, **K. M. Dobos**, R. Lahiri, L. Adams, M. Strong, M. Salfinger, R. Bradford, T. T. Stedman, M. A. Riojas and M. H. Hazbon. Culturing Mycobacteria. *Methods Mol Biol*. 2021;**2314**:1-58. PubMed [PMID: 34235647](https://pubmed.ncbi.nlm.nih.gov/34235647/).

**A. G. Amin**, P. De, B. Graham, R. I. Calderon, M. F. Franke and **D. Chatterjee**. Urine lipoarabinomannan in HIV uninfected, smear negative, symptomatic TB patients: effective sample pretreatment for a sensitive immunoassay and mass spectrometry. *Sci Rep*. 2021;**11**(1):2922. Epub 20210203. PubMed [PMID: 33536495](https://pubmed.ncbi.nlm.nih.gov/33536495/); PMCID: PMC7859189.

E. D. Chan, A. Cota-Gomez and **B. Podell**. Adding Another Piece to the Puzzle of Why NTM Infections are Relatively Uncommon despite their Ubiquitous Nature. *mBio*. 2021;**12**(2). Epub 20210420. PubMed [PMID: 33879587](https://pubmed.ncbi.nlm.nih.gov/33879587/); PMCID: PMC8092311.

**J. E. Cummings**, K. W. Slayden and **R. A. Slayden**. TPR1, a novel rifampicin derivative, demonstrates efficacy alone and in combination with doxycycline against the NIAID Category A priority pathogen *Francisella tularensis*. *JAC Antimicrob Resist*. 2021;**3**(2):dlab058. Epub 20210504. PubMed [PMID: 34223120](https://pubmed.ncbi.nlm.nih.gov/34223120/); PMCID: PMC8210291.

Y. Lu, S. Vibhute, L. Li, A. Okumu, S. C. Ratigan, S. Nolan, J. L. Papa, C. A. Mann, A. English, A. Chen, J. T. Seffernick, B. Koci, L. R. Duncan, B. Roth, **J. E. Cummings**, **R. A. Slayden**, S. Lindert, C. A. McElroy, D. J. Wozniak, J. Yalowich and M. J. Mitton-Fry. Optimization of TopoIV Potency, ADMET Properties, and hERG Inhibition of 5-Amino-1,3-dioxane-Linked Novel Bacterial Topoisomerase Inhibitors: Identification of a Lead with In Vivo Efficacy against MRSA. *J Med Chem*. 2021;**64**(20):15214-49. Epub 20211006. PubMed [PMID: 34614347](https://pubmed.ncbi.nlm.nih.gov/34614347/).

T. F. Durand-Reville, A. A. Miller, J. P. O'Donnell, X. Wu, M. A. Sylvester, S. Guler, R. Iyer, A. B. Shapiro, N. M. Carter, C. Velez-Vega, S. H. Moussa, S. M. McLeod, A. Chen, A. M. Tanudra, J. Zhang, J. Comita-Prevoir, J. A. Romero, H. Huynh, A. D. Ferguson, P. S. Horanyi, S. J. Mayclin, H. S. Heine, G. L. Drusano, **J. E. Cummings**, **R. A. Slayden** and R. A. Tommasi. Rational design of a new antibiotic class for drug-resistant infections. *Nature*. 2021;**597**(7878):698-702. Epub 20210915. PubMed [PMID: 34526714](https://pubmed.ncbi.nlm.nih.gov/34526714/).

**Host Response**

D. Kiran and **R. J. Basaraba**. Lactate Metabolism and Signaling in Tuberculosis and Cancer: A Comparative Review. *Front Cell Infect Microbiol*. 2021;**11**:624607. Epub 20210226. PubMed [PMID: 33718271](https://pubmed.ncbi.nlm.nih.gov/33718271/); PMCID: PMC7952876.

L. A. Kotze, V. N. Leukes, Z. Fang, M. B. Lutz, **B. L. Fitzgerald**, **J. Belisle**, A. G. Loxton, G. Walzl and N. du Plessis. Evaluation of autophagy mediators in myeloid-derived suppressor cells during human tuberculosis. *Cell Immunol*. 2021;**369**:104426. Epub 20210824. PubMed [PMID: 34469846](https://pubmed.ncbi.nlm.nih.gov/34469846/).

G. Balderrama-Gutierrez, A. Milovic, V. J. Cook, **M. N. Islam**, Y. Zhang, H. Kiaris, **J. T. Belisle**, A. Mortazavi and A. G. Barbour. An Infection-Tolerant Mammalian Reservoir for Several Zoonotic Agents Broadly Counters the Inflammatory Effects of Endotoxin. *mBio*. 2021;**12**(2). Epub 20210413. PubMed [PMID: 33849979](https://pubmed.ncbi.nlm.nih.gov/33849979/); PMCID: PMC8092257.

B. L. Fitzgerald, **B. Graham**, M. J. Delorey, A. Pegalajar-Jurado, **M. N. Islam**, G. P. Wormser, J. N. Aucott, A. W. Rebman, M. J. Soloski, **J. T. Belisle** and C. R. Molins. Metabolic Response in Patients with Post-treatment Lyme Disease Symptoms/Syndrome. *Clin Infect Dis*. 2021;**73**(7):e2342-e9. PubMed [PMID: 32975577](https://pubmed.ncbi.nlm.nih.gov/32975577/); PMCID: PMC8492154.

E. Ishida, D. T. Corrigan, R. J. Malonis, D. Hofmann, T. Chen, **A. G. Amin**, **D. Chatterjee**, M. Joe, T. L. Lowary, J. R. Lai and J. M. Achkar. Monoclonal antibodies from humans with *Mycobacterium tuberculosis* exposure or latent infection recognize distinct arabinomannan epitopes. *Commun Biol*. 2021;**4**(1):1181. Epub 20211012. PubMed [PMID: 34642445](https://pubmed.ncbi.nlm.nih.gov/34642445/); PMCID: PMC8511196.

T. Wallace, D. Schaeuble, S. A. Pace, M. K. Schackmuth, S. T. Hentges, **A. J. Chicco** and B. Myers. Sexually divergent cortical control of affective-autonomic integration. *Psychoneuroendocrinology*. 2021;**129**:105238. Epub 20210421. PubMed [PMID: 33930756](https://pubmed.ncbi.nlm.nih.gov/33930756/); PMCID: PMC8217303.

G. D. Catandi, Y. M. Obeidat, C. D. Broeckling, T. W. Chen, **A. J. Chicco** and E. M. Carnevale. Equine maternal aging affects oocyte lipid content, metabolic function and developmental potential. *Reproduction*. 2021;**161**(4):399-409. PubMed [PMID: 33539317](https://pubmed.ncbi.nlm.nih.gov/33539317/); PMCID: PMC7969451.

T. S. Dutt, S. M. LaVergne, T. L. Webb, B. A. Baxter, S. Stromberg, K. McFann, K. Berry, M. Tipton, O. Alnachoukati, L. Zier, G. Ebel, J. Dunn, **M. Henao-Tamayo** and E. P. Ryan. Comprehensive Immune Profiling Reveals CD56(+) Monocytes and CD31(+) Endothelial Cells Are Increased in Severe COVID-19 Disease. *J Immunol*. 2022;**208**(3):685-96. Epub 20220105. PubMed [PMID: 34987111](https://pubmed.ncbi.nlm.nih.gov/34987111/).

K. Saavedra-Rodriguez, C. L. Campbell, S. Lozano, P. Penilla-Navarro, A. Lopez-Solis, F. Solis-Santoyo, A. D. Rodriguez, **R. Perera** and W. C. Black Iv. Permethrin resistance in *Aedes aegypti*: Genomic variants that confer knockdown resistance, recovery, and death. *PLoS Genet*. 2021;**17**(6):e1009606. Epub 20210617. PubMed [PMID: 34138859](https://pubmed.ncbi.nlm.nih.gov/34138859/); PMCID: PMC8211209.

A. J. Janich, K. Saavedra-Rodriguez, F. Z. Vera-Maloof, R. C. Kading, A. D. Rodriguez, P. Penilla-Navarro, A. D. Lopez-Solis, F. Solis-Santoyo, **R. Perera** and W. C. Black. Permethrin Resistance Status and Associated Mechanisms in *Aedes albopictus* (Diptera: Culicidae) From Chiapas, Mexico. *J Med Entomol*. 2021;**58**(2):739-48. PubMed [PMID: 33034352](https://pubmed.ncbi.nlm.nih.gov/33034352/); PMCID: PMC7954096.

A. P. Spittler, M. F. Afzali, S. B. Bork, L. H. Burton, L. B. Radakovich, C. A. Seebart, A. R. Moore and **K. S. Santangelo**. Age- and sex-associated differences in hematology and biochemistry parameters of Dunkin Hartley guinea pigs (*Cavia porcellus*). *PLoS One*. 2021;**16**(7):e0253794. Epub 20210709. PubMed [PMID: 34242236](https://pubmed.ncbi.nlm.nih.gov/34242236/); PMCID: PMC8270176.

M. Howell, S. J. M. Evans, M. Cornwall and **K. S. Santangelo**. Multiplex fluorescent immunocytochemistry for the diagnosis of feline infectious peritonitis: Determining optimal storage conditions. *Vet Clin Pathol*. 2020;**49**(4):640-5. Epub 20210105. PubMed [PMID: 33403708.](https://pubmed.ncbi.nlm.nih.gov/33403708/)

A. Fagre, J. Lewis, M. Eckley, S. Zhan, S. M. Rocha, N. R. Sexton, B. Burke, B. Geiss, O. Peersen, T. Bass, R. Kading, **J. Rovnak**, G. D. Ebel, **R. B. Tjalkens**, T. Aboellail and **T. Schountz**. SARS-CoV-2 infection, neuropathogenesis and transmission among deer mice: Implications for spillback to New World rodents. *PLoS Pathog*. 2021;**17**(5):e1009585. Epub 20210519. PubMed [PMID: 34010360](https://pubmed.ncbi.nlm.nih.gov/34010360/); PMCID: PMC8168874.

**Virology/Viral Diseases**

S. M. LaVergne, S. Stromberg, B. A. Baxter, T. L. Webb, T. S. Dutt, K. Berry, M. Tipton, J. Haberman, B. R. Massey, K. McFann, O. Alnachoukati, L. Zier, T. Heacock, G. D. Ebel, **M. Henao-Tamayo**, J. Dunn and E. P. Ryan. A longitudinal SARS-CoV-2 biorepository for COVID-19 survivors with and without post-acute sequelae. *BMC Infect Dis.* 2021;**21**(1):677. Epub 20210713. PubMed [PMID: 34256735](https://pubmed.ncbi.nlm.nih.gov/34256735/); PMCID: PMC8276222.

I. K. Ragan, L. M. Hartson, T. S. Dutt, A. Obregon-Henao, R. M. Maison, P. Gordy, A. Fox, B. R. Karger, S. T. Cross, M. L. Kapuscinski, S. K. Cooper, **B. K. Podell**, M. D. Stenglein, R. A. Bowen, **M. Henao-Tamayo** and R. P. Goodrich. A Whole Virion Vaccine for COVID-19 Produced via a Novel Inactivation Method and Preliminary Demonstration of Efficacy in an Animal Challenge Model. *Vaccines* (Basel). 2021;**9**(4). Epub 20210401. PubMed [PMID: 33916180](https://pubmed.ncbi.nlm.nih.gov/33916180/); PMCID: PMC8066708.

S. Yonemura, L. Hartson, T. S. Dutt, **M. Henao-Tamayo**, R. Goodrich and S. Marschner. Preservation of neutralizing antibody function in COVID-19 convalescent plasma treated using a riboflavin and ultraviolet light-based pathogen reduction technology. *Vox Sang*. 2021;**116**(10):1076-83. Epub 20210409. PubMed [PMID: 33835489](https://pubmed.ncbi.nlm.nih.gov/33835489/); PMCID: PMC8251479.

T. S. Dutt, S. M. LaVergne, T. L. Webb, B. A. Baxter, S. Stromberg, K. McFann, K. Berry, M. Tipton, O. Alnachoukati, L. Zier, G. Ebel, J. Dunn, M. Henao-Tamayo and E. P. Ryan. Comprehensive Immune Profiling Reveals CD56(+) Monocytes and CD31(+) Endothelial Cells Are Increased in Severe COVID-19 Disease. J Immunol. 2022;**208**(3):685-96. Epub 20220105. PubMed [PMID: 34987111](https://pubmed.ncbi.nlm.nih.gov/34987111/).

M. Aminian, T. Ghosh, A. Peterson, A. L. Rasmussen, S. Stiverson, **K. Sharma** and **M. Kirby**. Early prognosis of respiratory virus shedding in humans. *Sci Rep*. 2021;**11**(1):17193. Epub 20210825. PubMed [PMID: 34433834](https://pubmed.ncbi.nlm.nih.gov/34433834/); PMCID: PMC8387366.

J. M. Burke, **L. A. St Clair**, **R. Perera** and R. Parker. SARS-CoV-2 infection triggers widespread host mRNA decay leading to an mRNA export block. *RNA*. 2021;**27**(11):1318-29. Epub 20210727. PubMed [PMID: 34315815](https://pubmed.ncbi.nlm.nih.gov/34315815/); PMCID: PMC8522697.

A. Fagre, J. Lewis, M. Eckley, S. Zhan, S. M. Rocha, N. R. Sexton, B. Burke, B. Geiss, O. Peersen, T. Bass, R. Kading, **J. Rovnak**, G. D. Ebel, **R. B. Tjalkens**, T. Aboellail and **T. Schountz**. SARS-CoV-2 infection, neuropathogenesis and transmission among deer mice: Implications for spillback to New World rodents. *PLoS Pathog*. 2021;**17**(5):e1009585. Epub 20210519. PubMed [PMID: 34010360](https://pubmed.ncbi.nlm.nih.gov/34010360/); PMCID: PMC8168874.

W. Yang, **T. Schountz** and W. Ma. Bat Influenza Viruses: Current Status and Perspective. *Viruses*. 2021;**13**(4). Epub 20210325. PubMed [PMID: 33805956](https://pubmed.ncbi.nlm.nih.gov/33805956/); PMCID: PMC8064322.

**Z. Abdo**, M. J. Blaser, J. A. Gilbert, R. Knight, C. Lozupone, K. Maas, J. B. H. Martiny, J. Metcalf, B. Methe, N. Mouncey, N. T. Mueller, J. Rawls, A. D. Sung, K. Whiteson, L. P. Zhao and M. C. Consortium. Coordinating and Assisting Research at the SARS-CoV-2/Microbiome Nexus. *mSystems*. 2020;**5**(6). DOI**:**<https://doi.org/10.1128/mSystems.00999-20>**.**

**Data Science Tools / Other Methodologies**

C. M. Schmidt, P. Ghadermazi and **S. H. J. Chan**. Predicting Microbiome Metabolism and Interactions through Integrating Multidisciplinary Principles. *mSystem*s. 2021;**6**(5):e0076821. Epub 20211005. PubMed [PMID: 34609169](https://pubmed.ncbi.nlm.nih.gov/34609169/); PMCID: PMC8547421.

E. Wallace, D. Hendrickson, N. Tolli, C. Mehaffy, M. Pena, J. A. Nick, P. Knabenbaur, J. Watkins, A. Simpson, **A. G. Amin**, **D. Chatterjee**, **K. M. Dobos**, R. Lahiri, L. Adams, M. Strong, M. Salfinger, R. Bradford, T. T. Stedman, M. A. Riojas and M. H. Hazbon. Culturing Mycobacteria. *Methods Mol Biol*. 2021;**2314**:1-58. PubMed [PMID: 34235647](https://pubmed.ncbi.nlm.nih.gov/34235647/).

M. Aminian, T. Ghosh, A. Peterson, A. L. Rasmussen, S. Stiverson, **K. Sharma** and **M. Kirby**. Early prognosis of respiratory virus shedding in humans. *Sci Rep*. 2021;**11**(1):17193. Epub 20210825. PubMed [PMID: 34433834](https://pubmed.ncbi.nlm.nih.gov/34433834/); PMCID: PMC8387366.

K. P. Oh, A. B. Shiels, L. Shiels, D. V. Blondel, K. J. Campbell, J. R. Saah, A. L. Lloyd, P. Q. Thomas, F. Gould, **Z. Abdo**, J. R. Godwin and A. J. Piaggio. Population genomics of invasive rodents on islands: Genetic consequences of colonization and prospects for localized synthetic gene drive. *Evol Appl*. 2021;**14**(5):1421-35. Epub 20210310. PubMed [PMID: 34025776](https://pubmed.ncbi.nlm.nih.gov/34025776/); PMCID: PMC8127709.

**Genomics/Microbiome**

M. W. Hopken, L. J. Reyes-Torres, N. Scavo, A. J. Piaggio, **Z. Abdo**, D. Taylor, J. Pierce and D. A. Yee. Temporal and Spatial Blood Feeding Patterns of Urban Mosquitoes in the San Juan Metropolitan Area, Puerto Rico. *Insects*. 2021;**12**(2). Epub 20210202. PubMed [PMID: 33540671](https://pubmed.ncbi.nlm.nih.gov/33540671/); PMCID: PMC7913113.

M. W. Hopken, A. J. Piaggio, K. L. Pabilonia, J. Pierce, T. Anderson, C. Pierce and **Z. Abdo**. Population genomic transformations induced by isolation of wild bird avian influenza viruses (Orthomyxoviridae) in embryonated chicken eggs. *Infect Genet Evol*. 2021;**90**:104505. Epub 20200820. PubMed [PMID: 32827730](https://pubmed.ncbi.nlm.nih.gov/32827730/).

C. Geldert, **Z. Abdo**, J. E. Stewart and H. S. Arthi. Dietary supplementation with phytochemicals improves diversity and abundance of honey bee gut microbiota. J *Appl Micro*biol. 2021;**130**(5):1705-20. Epub 20201030. PubMed [PMID: 33058297](https://pubmed.ncbi.nlm.nih.gov/33058297/).

**Z. Abdo**, M. J. Blaser, J. A. Gilbert, R. Knight, C. Lozupone, K. Maas, J. B. H. Martiny, J. Metcalf, B. Methe, N. Mouncey, N. T. Mueller, J. Rawls, A. D. Sung, K. Whiteson, L. P. Zhao and M. C. Consortium. Coordinating and Assisting Research at the SARS-CoV-2/Microbiome Nexus. *mSystems*. 2020;**5**(6). DOI**:**<https://doi.org/10.1128/mSystems.00999-20>**.**

**Therapeutics/Resistance**

C. Van Cleave, J. T. Koehn, C. S. Pereira, A. A. Haase, B. J. Peters, S. W. Croslow, K. G. McLaughlin, K. R. Werst, A. L. Goach, **D. C. Crick**, G. M. Arantes and D. C. Crans. Interactions of Truncated Menaquinones in Lipid Monolayers and Bilayers. *Int J Mol* *Sci.* 2021;**22**(18). Epub 20210909. PubMed [PMID: 34575937](https://pubmed.ncbi.nlm.nih.gov/34575937/); PMCID: PMC8470443.

K. Kostenkova, Z. Arhouma, K. Postal, A. Rajan, U. Kortz, G. G. Nunes, **D. C. Crick** and D. C. Crans. Pt(IV)- or Mo(VI)-substituted decavanadates inhibit the growth of *Mycobacterium smegmatis*. *J Inorg Biochem*. 2021;**217**:111356. Epub 20210119. PubMed [PMID: 33582396](https://pubmed.ncbi.nlm.nih.gov/33582396/).

**J. E. Cummings**, K. W. Slayden and **R. A. Slayden**. TPR1, a novel rifampicin derivative, demonstrates efficacy alone and in combination with doxycycline against the NIAID Category A priority pathogen *Francisella tularensis*. *JAC Antimicrob Resist*. 2021;**3**(2):dlab058. Epub 20210504. PubMed [PMID: 34223120](https://pubmed.ncbi.nlm.nih.gov/34223120/); PMCID: PMC8210291.

K. Haranahalli, S. Tong, S. Kim, M. Awwa, L. Chen, S. E. Knudson, **R. A. Slayden**, E. Singleton, R. Russo, N. Connell and I. Ojima. Structure-activity relationship studies on 2,5,6-trisubstituted benzimidazoles targeting Mtb-FtsZ as antitubercular agents. *RSC Med Chem*. 2021;**12**(1):78-94. Epub 20201016. PubMed [PMID: 34046600](https://pubmed.ncbi.nlm.nih.gov/34046600/); PMCID: PMC8132993.

A. P. Spittler, J. E. Helbling, S. McGrath, D. L. Gustafson, **K. S. Santangelo** and M. J. Sadar. Plasma and joint tissue pharmacokinetics of two doses of oral cannabidiol oil in guinea pigs (*Cavia porcellus*). *J Vet Pharmacol Ther*. 2021;**44**(6):967-74. Epub 20211017. PubMed [PMID: 34658021](https://pubmed.ncbi.nlm.nih.gov/34658021/).

Y. Lu, S. Vibhute, L. Li, A. Okumu, S. C. Ratigan, S. Nolan, J. L. Papa, C. A. Mann, A. English, A. Chen, J. T. Seffernick, B. Koci, L. R. Duncan, B. Roth, **J. E. Cummings**, **R. A. Slayden**, S. Lindert, C. A. McElroy, D. J. Wozniak, J. Yalowich and M. J. Mitton-Fry. Optimization of TopoIV Potency, ADMET Properties, and hERG Inhibition of 5-Amino-1,3-dioxane-Linked Novel Bacterial Topoisomerase Inhibitors: Identification of a Lead with In Vivo Efficacy against MRSA. *J Med Chem*. 2021;**64**(20):15214-49. Epub 20211006. PubMed [PMID: 34614347](https://pubmed.ncbi.nlm.nih.gov/34614347/).

T. F. Durand-Reville, A. A. Miller, J. P. O'Donnell, X. Wu, M. A. Sylvester, S. Guler, R. Iyer, A. B. Shapiro, N. M. Carter, C. Velez-Vega, S. H. Moussa, S. M. McLeod, A. Chen, A. M. Tanudra, J. Zhang, J. Comita-Prevoir, J. A. Romero, H. Huynh, A. D. Ferguson, P. S. Horanyi, S. J. Mayclin, H. S. Heine, G. L. Drusano, **J. E. Cummings**, **R. A. Slayden** and R. A. Tommasi. Rational design of a new antibiotic class for drug-resistant infections. *Nature*. 2021;**597**(7878):698-702. Epub 20210915. PubMed [PMID: 34526714](https://pubmed.ncbi.nlm.nih.gov/34526714/).

**Diagnostics**

Y. Panraksa, A. G. Amin, **B. Graham**, C. S. Henry and **D. Chatterjee**. Immobilization of Proteinase K for urine pretreatment to improve diagnostic accuracy of active tuberculosis. *PLoS One*. 2021;**16**(9):e0257615. Epub 20210921. PubMed [PMID: 34547058](https://pubmed.ncbi.nlm.nih.gov/34547058/); PMCID: PMC8454978.

**A. G. Amin**, P. De, B. Graham, R. I. Calderon, M. F. Franke and **D. Chatterjee**. Urine lipoarabinomannan in HIV uninfected, smear negative, symptomatic TB patients: effective sample pretreatment for a sensitive immunoassay and mass spectrometry. *Sci Rep*. 2021;**11**(1):2922. Epub 20210203. PubMed [PMID: 33536495](https://pubmed.ncbi.nlm.nih.gov/33536495/); PMCID: PMC7859189.

M. Howell, S. J. M. Evans, M. Cornwall and **K. S. Santangelo**. Multiplex fluorescent immunocytochemistry for the diagnosis of feline infectious peritonitis: Determining optimal storage conditions. *Vet Clin Pathol*. 2020;**49**(4):640-5. Epub 20210105. PubMed [PMID: 33403708.](https://pubmed.ncbi.nlm.nih.gov/33403708/)

B. L. Fitzgerald, **B. Graham**, M. J. Delorey, A. Pegalajar-Jurado, **M. N. Islam**, G. P. Wormser, J. N. Aucott, A. W. Rebman, M. J. Soloski, **J. T. Belisle** and C. R. Molins. Metabolic Response in Patients with Post-treatment Lyme Disease Symptoms/Syndrome. *Clin Infect Dis*. 2021;**73**(7):e2342-e9. PubMed [PMID: 32975577](https://pubmed.ncbi.nlm.nih.gov/32975577/); PMCID: PMC8492154.

**Vaccines**

I. K. Ragan, L. M. Hartson, T. S. Dutt, A. Obregon-Henao, R. M. Maison, P. Gordy, A. Fox, B. R. Karger, S. T. Cross, M. L. Kapuscinski, S. K. Cooper, **B. K. Podell**, M. D. Stenglein, R. A. Bowen, **M. Henao-Tamayo** and R. P. Goodrich. A Whole Virion Vaccine for COVID-19 Produced via a Novel Inactivation Method and Preliminary Demonstration of Efficacy in an Animal Challenge Model. *Vaccines* (Basel). 2021;**9**(4). Epub 20210401. PubMed [PMID: 33916180](https://pubmed.ncbi.nlm.nih.gov/33916180/); PMCID: PMC8066708.

S. Yonemura, L. Hartson, T. S. Dutt, **M. Henao-Tamayo**, R. Goodrich and S. Marschner. Preservation of neutralizing antibody function in COVID-19 convalescent plasma treated using a riboflavin and ultraviolet light-based pathogen reduction technology. *Vox Sang*. 2021;**116**(10):1076-83. Epub 20210409. PubMed [PMID: 33835489](https://pubmed.ncbi.nlm.nih.gov/33835489/); PMCID: PMC8251479.