

Archived Publications & Research Highlights

Select Publications

June, 2025

- Navarrete KM, Edwards KM, Mills KHG, Kamanova J, Rodriguez ME, Gorringe A, Preston A, Kampmann B, Gestal MC, Harvill ET, Dubey P, Diavatopoulos DA, Mattoo S, **Scanlon KM**, Locht C, Sebo P. Highlights of the 14th International Bordetella Symposium. *mSphere*. 2025 June 25. PMID: 40377335
- Yin X, Pu Y, Yuan S, Pache L, Churas C, Weston S, Riva L, Simons LM, Cisneros WJ, Clausen T, Biddle G, Doss-Gollin S, Deming M, De Jesus PD, Kim HN, Fuentes D, Whitelock JM, Esko JD, Lord MS, Mena I, García-Sastre A, Hultquist JF, **Frieman MB**, Ideker T, Pratt D, Martin-Sancho L, Chanda SK. Global siRNA screen identifies human host factors critical for SARS-CoV-2 replication and late stages of infection. *PLoS Biology*. 2025 Jun 12. PMID: 40504864

January, 2025

- **K. A. Shirey**, A. Romerio, M. M. Shaik, V. A. Alfonso, A. Alquallaf, J. A. Kh. R. Alquallaf, S. Valyapuri, N. Michael, K. Patel, D. S. Leake, C. Palmer, N. Skupinska, G. Pirianov, J. C. G. Blanco, **S. N. Vogel**, F. Peri. Preclinical development of the TLR4 antagonist FP12 as a drug lead targeting the HMGB1/MD-2/TLR4 axis in lethal influenza infection. *Innate Immunity*. 2025 Jan-Dec. PMID: 40033742
- S. P. Atamas, V. Lockatell, N. W. Todd, J. C. Papadimitriou, V. Rus, K. N. Lugkey, **S. N. Vogel**, V. Y. Toshchakov, I. G. Luzina. Therapeutic targeting of full-length interleukin-33 protein levels with cell-permeable decoy peptides attenuates fibrosis in the bleomycin model in vivo. *J Pharmacol Exp Ther*. 2025 Jan. PMID: 39893007
- Deshmukh H, Whitsett J, Zacharias W, Way SS, Martinez FD, Mizgerd J, Pryhuber G, Ambalavanan N, Bacharier L, Natarajan A, Tamburro R, Lin S, Randolph A, Nino G, Mejias A, Ramilo O; NIH Workshop Participants of the 'Viral Lower Respiratory Tract Infections in Infancy and Early Childhood-Immunological and Developmental Aspects' (**Frieman M**). Impact of Viral Lower Respiratory Tract Infection (LRTI) in Early Childhood (0-2 Years) on Lung Growth and Development and Lifelong Trajectories of Pulmonary Health: A National Institutes of Health (NIH) Workshop Summary. *Pediatric Pulmonology*. 2025 Jan. PMID: 39565217

December, 2024

- Case JB, Sanapala S, Dillen C, Rhodes V, Zmasek C, Chiczy TM, Switzer CE, Scheaffer SM, Georgiev G, Jacob-Dolan C, Hauser BM, Dos Anjos DCC, Adams LJ, Soudani N, Liang CY, Ying B, McNamara RP, Scheuermann RH, Boon ACM, Fremont DH, Whelan SPJ, Schmidt AG, Sette A, Grifoni A, **Frieman MB**, Diamond MS. A trivalent mucosal vaccine encoding phylogenetically inferred ancestral RBD sequences confers pan-Sarbecovirus protection in mice. *Cell Host & Microbe*. 2024 Dec 11. PMID:39561781
- Lietz S, Sommer A, Sokolowski L, Kling C, Rodriguez Alfonso A, Preising N, Alpizar-Pedraza D, King J, Streit L, Schröppel B, van Erp R, Barth E, Schneider M, Münch J, Michaelis J, Ständker L, Wiese S, Barth H, Pulliainen AT, **Scanlon K**, and Ernst K. Alpha-1-antitrypsin inhibits pertussis toxin. *Journal of Biological Chemistry*. 2024 Dec. PMID: 39481600

November, 2024

- M. Tulapurkar, **K. A. Shirey**, K. Lugkey, W. Luo, R. Lal, A. Galan, O. Mahmoud, N. McClean, K. Thangaraju, D. Cericola, D. Lewis, W. A. Murphy, S. Fletcher, A. D. MacKerell, **S. N. Vogel**, P. Shapiro, J. Hasday. First-in-class mitogen-activated protein kinase (MAPK) p38a: MAPK-Activated Protein Kinase-2 dual signal modulator with anti-inflammatory and endothelial-stabilizing properties. *J Pharmacol Exp Ther*. 2024 Nov 22. PMID: 39969269
- Wang J, **DasSarma S**. Contributions of Medical Greenhouse Gases to Climate Change and Their Possible Alternatives. *International Journal of Environmental Research & Public Health*. 2024 Nov 22. PMID: 39767390
- Derakhshandeh R, Zhu Y, Li J, Hester D, Younis R, Koka R, Jones LP, Sun W, Goloubeva O, Tkaczuk K, Bates J, Reader J, **Webb TJ**. Identification of Functional Immune Biomarkers in Breast Cancer Patients. *International Journal of Molecular Sciences*. 2024 Nov 16. PMID: 39596374
- Leonardo Soto, Priya DasSarma, P, Anton, BP, Vincze, T, Verma, I, Eralp, B, Powers, DW, Dozier, BL, Roberts, RJ, and **DasSarma, S**. Genome Sequence of an Extremely Halophilic Archaeon Isolated from Permian Era Halite, Salado Formation in New Mexico, USA: *Halobacterium* sp. Strain NM12-1. *Microbiology Resource Announcements*. 2024 Nov 12. PMID: 39431873

- Nanjaiah H and **Moudgil KD**. Targeted Therapy of Antibody-Induced Autoimmune Arthritis Using Peptide-Guided Nanoparticles. *International Journal of Molecular Sciences*. 2024 Nov 8. PMID: 39596089
- **Flajnik MF**. The Janus (dual) model of immunoglobulin isotype evolution: Conservation and plasticity are the defining paradigms. *Immunological Reviews*, 2024 Nov. PMID: 39223989
- Case JB, Sanapala S, Dillen C, Rhodes V, Zmasek C, Chiczy TM, Switzer CE, Scheaffer SM, Georgiev G, Jacob-Dolan C, Hauser BM, Dos Anjos DCC, Adams LJ, Soudani N, Liang CY, Ying B, McNamara RP, Scheuermann RH, Boon ACM, Fremont DH, Whelan SPJ, Schmidt AG, Sette A, Grifoni A, **Frieman MB**, Diamond MS. A trivalent mucosal vaccine encoding phylogenetically inferred ancestral RBD sequences confers pan-Sarbecovirus protection in mice. *Cell Host Microbe*. 2024 Dec 11;32(12):2131-2147.e8. doi: 10.1016/j.chom.2024.10.016. Epub 2024 Nov 18.,39561781
- Brook B, Checkervarty AK, Barman S, Sweitzer C, Bosco AN, Sherman AC, Baden LR, Morrocchi E, Sanchez-Schmitz G, Palma P, Nanishi E, O'Meara TR, McGrath ME, **Frieman MB**, Soni D, van Haren SD, Ozonoff A, Diray-Arce J, Steen H, Dowling DJ, Levy O. The BNT162b2 mRNA vaccine demonstrates reduced age-associated T(H)1 support in vitro and in vivo. *iScience*. 2024 Sep 26;27(11):111055. doi: 10.1016/j.isci.2024.111055. eCollection 2024 Nov 15.,39569372
- de Miguel-Perez D, Arroyo-Hernandez M, La Salvia S, Gunasekaran M, Pickering EM, Avila S, Gebru E, Becerril-Vargas E, Monraz-Perez S, Saharia K, Grazioli A, McCurdy MT, **Frieman M**, Miorin L, Russo A, Cardona AF, García-Sastre A, Kaushal S, Hirsch FR, Atanackovic D, Sahoo S, Arrieta O, Rolfo C. Extracellular vesicles containing SARS-CoV-2 proteins are associated with multi-organ dysfunction and worse outcomes in patients with severe COVID-19. *J Extracell Vesicles*. 2024 Nov;13(11):e70001. doi: 10.1002/jev2.70001.,39558820
- Zhou KM, Liu PP, Yao JY, **Vasta GR**, Wang JX, and Wang XW (2025) Shrimp Intestinal Microbiota Homeostasis: Dynamic Interplay Between the Microbiota and Host Immunity. *Reviews in Aquaculture*. January 1, Volume17, Issue1, e12986

September, 2024

- Samaddar, S., Rolandelli, A., O'Neal, A.J., Laukaitis-Yousey, H.J., Marnin, L., Singh, N., Wang, X., Butler, L.R., Rangghran, P., Kitsou, C., Cabrera Paz, F.E. Valencia, L., Ferraz, C.R., Munderloh, U.G., Khoo, B., Cull, B., Rosche, K.L., Shaw, D.K., Oliver, J., Narasimhan, S., Fikrig, E., Pal, U., Fiskum, G.M., Polster, B.M., **Pedra J.H.F.** Bacterial reprogramming of tick metabolism impacts vector fitness and susceptibility to infection. *Nature Microbiology*. 2024 Sept. PMID: 38997520
- Carlin AF, Beadle JR, Ardanuy J, Clark AE, Rhodes V, Garretson AF, Murphy JA, Valiaeva N, Schooley RT, **Frieman MB**, Hostetler KY. Oral pharmacokinetics and efficacy of oral phospholipid remdesivir nucleoside prodrugs against SARS-CoV-2 in mice. *Antimicrob Agents Chemother*. 2024 Oct 8;68(10):e0103924. doi: 10.1128/aac.01039-24. Epub 2024 Sep 6.,39240093

July, 2024

- Jassey A, Pollack N, Wagner MA, Wu J, Benton A, **Jackson WT**. Transcription factor EB (TFEB) interaction with RagC is disrupted during enterovirus D68 infection. *Journal of Virology*. 2024 July 23. PMID: 38888347
- Hart, T.M., Sonnert, N.D., Tang, X., Chaurasia, R., Allen, P.E., Hunt, J.R., Read, C.B., Johnson, E.E., Arora, G., Dai, Y., Cui, Y., Chuang, Y.-M., Yu, Q., **Rahman, M.S.**, Mendes, M.T., Rolandelli, A., Singh, P., Tripathi, A.K., Ben Mamoun, C., Caimano, M.J., Radolf, J.D., Lin, Y.-P., Roy, C.R., Lin, Y., Fingerle, V., Margos, G., Pal, U., Johnson, R.M., **Pedra, J.H.F.**, **Azad, A.F.**, Salje, J., Dimopoulos, G., Vinetz, J.M., Carlyon, J.A., Palm, N.W., Fikrig, E., Ring, A.M. An atlas of human vector-borne microbe interactions reveals pathogenicity mechanisms. *Cell*. 2024 July 25. PMID: 38876107

June, 2024

- Scotland BL, Dharmaraj S, Cottingham AL, Truong N, Chapoval SP, **Keegan AD**, Pearson RM. Impact of antigen loading in tolerogenic nanoparticles to mitigate Th2-mediated allergic lung inflammation. *Drug Delivery and Translational Research*. 2024 Jun 11. PMID: 38862755

May, 2024

- Mitchell, AE, **Scanlon, KM**, Flowers, EM, Jordan, CM, Tibbs, EJ, Bukowski, A, Gallop, D, **Carbonetti, NH**. Age-dependent NK cell and interferon-gamma deficits contribute to severe pertussis in infant mice. *Journal of Leukocyte Biology*. 2024 May 29. PMID: 38285898
- Jassey A & **Jackson WT**. Viruses and autophagy: bend, but don't break. *Nature Reviews Microbiology*. 2024 May. PMID: 38102460
- McGrath ME, Xue Y, Taylor L, Dillen C, Ardanuy J, Gonzalez-Juarbe N, Baracco L, Kim R, Hart R, Assad-Garcia N, Vashee S, **Frieman MB**. SARS-CoV-2 ORF8 modulates lung inflammation and clinical disease progression. *PLoS Pathog*. 2024 May 23;20(5):e1011669. doi: 10.1371/journal.ppat.1011669. eCollection 2024 May.,38781259

- Mühlemann B, Wilks SH, Baracco L, Bekliz M, Carreño JM, Corman VM, Davis-Gardner ME, Dejnirattisai W, Diamond MS, Douek DC, Drosten C, Eckerle I, Edara VV, Ellis M, Fouchier RAM, **Frieman M**, Godbole S, Haagmans B, Halfmann PJ, Henry AR, Jones TC, Katzelnick LC, Kawaoka Y, Kimpel J, Krammer F, Lai L, Liu C, Lusvarghi S, Meyer B, Mongkolsapaya J, Montefiori DC, Mykytyn A, Netzl A, Pollett S, Rössler A, Screaton GR, Shen X, Sigal A, Simon V, Subramanian R, Supasa P, Suthar MS, Türelı S, Wang W, Weiss CD, Smith DJ. Comparative analysis of SARS-CoV-2 neutralization titers reveals consistency between human and animal model serum and across assays. *Sci Transl Med*. 2024 May 15;16(747):eadl1722. doi: 10.1126/scitranslmed.adl1722. Epub 2024 May 15.;38748773

March, 2024

- Rolandelli, A., Laukaitis-Yousey, H.J., Bogale, H.N., **Singh, N.**, Samaddar, S., O'Neal, A.J., Ferraz, C.R, Butnaru M., Mameli, E., Xia, B. Mendes, M.T., Butler, L.R., Marnin, L., Cabrera Paz, F.E., Valencia, L.M., Rana, V.S., **Skerry, C.**, Pal, U., Mohr, S.E., Perrimon, N., **Serre, D.**, **Pedra, J.H.F.** Tick hemocytes have pleiotropic roles in microbial infection and arthropod fitness. *Nature Communications*. 2024 March 8. PMID: 38459063
- Singh, N., Rolandelli, A., O'Neal, A.J., Butler, L.R., Samaddar, S., Laukaitis-Yousey, H., Butnaru, M., Mohr, S.E., Perrimon, N., **Pedra, J.H.F.** Genetic manipulation of an Ixodes scapularis cell line. *mBio*. 2024 Mar 13. PMID: 38380961

February, 2024

- Hsu H, Zanettini C, Coker M, Boudova SE, Rach D, Mvula G, Divala TH, Mungwira RG, Boldrin F, Degiacomi G, Manganelli R, Laufer MK, Zhang Y, Marchionni L, **Cairo C.** Concomitant assessment of PD-1 and CD56 expression identifies subsets of cord blood Vd2 T cells with different cytotoxic potential. *Cellular Immunology*. 2024 Jan-Feb. PMID: 38157646
- Decker S, Xiao S, Dillen C, Schumacher CM, Milstone AM, **Frieman M**, Debes AK. Association of Nirmatrelvir/Ritonavir Treatment and COVID-19-Neutralizing Antibody Titers in a Longitudinal Health Care Worker Cohort. *Open Forum Infect Dis*. 2024 Feb 13;11(2):ofad625. doi: 10.1093/ofid/ofad625. eCollection 2024 Feb.;38352152

January, 2025

- Kazuhiko Kawasaki, **Yuko Ohta**, Caitlin D Castro, **Martin F Flajnik**. The immunoglobulin J chain is an evolutionarily co-opted chemokine. *Proc Natl Acad Sci USA*. 2024 Jan 16. PMID: 38215184
 - Chapoval SP, Gao H, Fanaroff R, **Keegan AD**. Plexin B1 controls the size of the regulatory T-cell pool in tissues and regulates mucins thereby limiting allergic airway inflammation. *Frontiers in Immunol*. Jan 8 2024. 14:1297354. PMID: 38259471
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