

REFERENCES

- Abbink, P., Larocca, R. A., Dejnirattisai, W., Peterson, R., Nkolola, J. P., Borducchi, E. N., ... Barouch, D. H. (2018). *Therapeutic and protective efficacy of a dengue antibody against Zika infection in rhesus monkeys*. *Nature Medicine*, 24(6), 721–723. doi:10.1038/s41591-018-0056-0
- Bailey, M. J., Duehr, J., Dulin, H., Broecker, F., Brown, J. A., Arumemi, F. O., Bermúdez González, M. C., Leyva-Grado, V. H., Evans, M. J., Simon, V., Lim, J. K., Krammer, F., Hai, R., Palese, P., & Tan, G. S. (2018). Human antibodies targeting Zika virus NS1 provide protection against disease in a mouse model. *Nature communications*, 9(1), 4560.
- Barban, V., Mantel, N., De Montfort, A., Pagnon, A., Pradezynski, F., Lang, J., & Boudet, F. (2018). Improvement of the Dengue Virus (DENV) Nonhuman Primate Model via a Reverse Translational Approach Based on Dengue Vaccine Clinical Efficacy Data against DENV-2 and -4. *Journal Of Virology*, 92(12), e00440-18.
- Bardina, S. V., Bunduc, P., Tripathi, S., Duehr, J., Frere, J. J., Brown, J. A., ... Lim, J. K. (2017). Enhancement of Zika virus pathogenesis by preexisting antiflavivirus immunity. *Science*, 356(6334), 175–180.
- Bisanzio, D., Dzul-Manzanilla, F., Gomez-Dantés, H., Pavia-Ruz, N., Hladish, T. J., Lenhart, A., ... Vazquez-Prokopec, G. M. (2018). Spatio-temporal coherence of dengue, chikungunya and Zika outbreaks in Merida, Mexico. *PLOS Neglected Tropical Diseases*, 12(3), e0006298.
- Boyer, S., Calvez, E., Chouin-Carneiro, T., Diallo, D., & Failloux, A.-B. (2018). An overview of mosquito vectors of Zika virus. *Microbes and Infection*.
- Brown, J. A., Singh, G., Acklin, J. A., Lee, S., Duehr, J. E., Chokola, A. N., ... Lim, J. K. (2019). *Dengue Virus Immunity Increases Zika Virus-Induced Damage during Pregnancy*. *Immunity*.
- Calvet, G., Aguiar, R. S., Melo, A. S. O., Sampaio, S. A., de Filippis, I., Fabri, A., ... de Filippis, A. M. B. (2016). Detection and sequencing of Zika virus from amniotic fluid of fetuses with microcephaly in Brazil: a case study. *The Lancet Infectious Diseases*, 16(6), 653–660.
- Carrillo-Hernández, M. Y., Ruiz-Saenz, J., Villamizar, L. J., Gómez-Rangel, S. Y., & Martínez-Gutierrez, M. (2018). Co-circulation and simultaneous co-infection of dengue, chikungunya, and zika viruses in patients with febrile syndrome at the Colombian-Venezuelan border. *BMC Infectious Diseases*, 18(1).
- Chan, K., Wang, X., Saron, W., Gan, E., Tan, H., & Mok, D. et al. (2016). Cross-reactive antibodies enhance live attenuated virus infection for increased immunogenicity. *Nature Microbiology*, 1(12).
- Chaudhary, V., Yuen, K.-S., Chan, J. F.-W., Chan, C.-P., Wang, P.-H., Cai, J.-P., ... Jin, D.-Y. (2017). Selective Activation of Type II Interferon Signaling by Zika Virus NS5 Protein. *Journal of Virology*, 91(14).
- Collins, M. H., McGowan, E., Jadi, R., Young, E., Lopez, C. A., Baric, R. S., ... de Silva, A. M. (2017). *Lack of Durable Cross-Neutralizing Antibodies Against Zika Virus from Dengue Virus Infection*. *Emerging Infectious Diseases*, 23(5), 773–781.
- Da Silva, M. H. M., Moises, R. N. C., Alves, B. E. B., Pereira, H. W. B., de Paiva, A. A. P., Morais, I. C., ... Fernandes, J. V. (2019). Innate immune response in patients with acute Zika virus infection. *Medical Microbiology and Immunology*.

- Dejnirattisai, W., Supasa, P., Wongwiwat, W., Rouvinski, A., Barba-Spaeth, G., Duangchinda, T., ... Screamton, G. R. (2016). Dengue virus sero-cross-reactivity drives antibody-dependent enhancement of infection with zika virus. *Nature Immunology*, 17(9), 1102–1108.
- Dos Santos Franco, L., Gushi, L. T., Luiz, W. B., & Amorim, J. H. (2019). Seeking Flavivirus Cross-Protective Immunity. *Frontiers in immunology*, 10, 2260.
- Dupont-Rouzeyrol, M., O'Connor, O., Calvez, E., Daurès, M., John, M., Grangeon, J. P., & Gourinat, A. C. (2015). Co-infection with Zika and dengue viruses in 2 patients, New Caledonia, 2014. *Emerging infectious diseases*, 21(2), 381–382.
- Dupont-Rouzeyrol, M., O'Connor, O., Calvez, E., Daurès, M., John, M., Grangeon, J. P., & Gourinat, A. C. (2015). Co-infection with Zika and dengue viruses in 2 patients, New Caledonia, 2014. *Emerging infectious diseases*, 21(2), 381–382.
- Elong Ngono, A., & Shresta, S. (2018). Immune Response to Dengue and Zika. *Annual Review of Immunology*, 36(1), 279–308.
- Elong Ngono, A., & Shresta, S. (2019). Cross-Reactive T Cell Immunity to Dengue and Zika Viruses: New Insights Into Vaccine Development. *Frontiers in Immunology*, 10.
- Elong Ngono, A., Vizcarra, E. A., Tang, W. W., Sheets, N., Joo, Y., Kim, K., Gorman, M. J., Diamond, M. S., & Shresta, S. (2017). Mapping and Role of the CD8+ T Cell Response During Primary Zika Virus Infection in Mice. *Cell host & microbe*, 21(1), 35–46.
- Fernández-Gracia, J., Eguíluz, V. M., & San Miguel, M. (2011). Update rules and interevent time distributions: Slow ordering versus no ordering in the voter model. *Physical Review E*, 84(1).
- Flipse, J., Diosa-Toro, M.A., Hoornweg, T.E., Van De Pol, D.P., Urcuqui-Inchima, S. and Smit, J.M., 2016. Antibody-dependent enhancement of dengue virus infection in primary human macrophages; balancing higher fusion against antiviral responses. *Scientific reports*, 6, p.29201.
- Gardner, L. M., Bóta, A., Gangavarapu, K., Kraemer, M. U. G., & Grubaugh, N. D. (2018). Inferring the risk factors behind the geographical spread and transmission of Zika in the Americas. *PLOS Neglected Tropical Diseases*, 12(1), e0006194.
- George, J., Valiant, W., Mattapallil, M., Walker, M., Huang, Y., & Vanlandingham, D. et al. (2017). Prior Exposure to Zika Virus Significantly Enhances Peak Dengue-2 Viremia in Rhesus Macaques. *Scientific Reports*, 7(1). doi: 10.1038/s41598-017-10901-1
- Grant, A., Ponia, S. S., Tripathi, S., Balasubramaniam, V., Miorin, L., Sourisseau, M., ... García-Sastre, A. (2016). *Zika Virus Targets Human STAT2 to Inhibit Type I Interferon Signaling*. *Cell Host & Microbe*, 19(6), 882–890.
- Gunawardana, S. A., & Shaw, R. H. (2018). Cross-reactive dengue virus-derived monoclonal antibodies to Zika virus envelope protein: Panacea or Pandora's box?. *BMC infectious diseases*, 18(1), 641.
- Hamel, R., Dejarnac, O., Wichit, S., Ekchariyawat, P., Neyret, A., Luplertlop, N., ... Missé, D. (2015). Biology of Zika Virus Infection in Human Skin Cells. *Journal of Virology*, 89(17), 8880–8896.
- Hassett, M., Brien, J., & Pinto, A. (2019). Mouse Models of Heterologous Flavivirus Immunity: A Role for Cross-Reactive T Cells. *Frontiers In Immunology*, 10.
- Heinz, F., & Stiasny, K. (2017). The Antigenic Structure of Zika Virus and Its Relation to Other Flaviviruses: Implications for Infection and Immunoprophylaxis. *Microbiology And Molecular Biology Reviews*, 81(1).

- Karina, A., Salge, M., Castral, T. C., Sousa, M. C. De, Rayane, R., Souza, G., ... Souza, B. De. (2016). Zika virus infection during pregnancy and microcephaly in newborns : an integrative literature review, 1952(1), 1–14.
- Katzelnick, L.C., Gresh, L., Halloran, M.E., Mercado, J.C., Kuan, G., Gordon, A., Balmaseda, A. and Harris, E., 2017. Antibody-dependent enhancement of severe dengue disease in humans. *Science*, 358(6365), pp.929-932.
- Laureti, M., Narayanan, D., Rodriguez-Andres, J., Fazakerley, J. K., & Kedzierski, L. (2018). Flavivirus Receptors: Diversity, Identity, and Cell Entry. *Frontiers in Immunology*, 9.
- Leonhard, S. E., Lant, S., Jacobs, B. C., Wilder-Smith, A., Ferreira, M. L. B., Solomon, T., & Willison, H. J. (2018). *Zika virus infection in the returning traveller: what every neurologist should know. Practical Neurology*, 18(4), 271–277.
- Lim, S. K., Lim, J. K., & Yoon, I. K. (2017). An Update on Zika Virus in Asia. *Infection & chemotherapy*, 49(2), 91–100.
- Magnus, M. M., Espósito, D., Costa, V., Melo, P. S., Costa-Lima, C., Fonseca, B., & Addas-Carvalho, M. (2018). Risk of Zika virus transmission by blood donations in Brazil. *Hematology, transfusion and cell therapy*, 40(3), 250–254.
- Mansfield, K. L., Horton, D. L., Johnson, N., Li, L., Barrett, A. D. T., Smith, D. J., ... Fooks, A. R. (2011). *Flavivirus-induced antibody cross-reactivity. Journal of General Virology*, 92(12), 2821–2829.
- Mayer, S. V., Tesh, R. B., & Vasilakis, N. (2017). The emergence of arthropod-borne viral diseases: A global prospective on dengue, chikungunya and zika fevers. *Acta Tropica*, 166, 155–163.
- Mazeaud, C., Freppel, W., & Chatel-Chaix, L. (2018). *The Multiples Fates of the Flavivirus RNA Genome During Pathogenesis. Frontiers in Genetics*, 9.
- Montecillo-Aguado, M. R., Montes-Gómez, A. E., García-Cordero, J., Corzo-Gómez, J., Vivanco-Cid, H., Mellado-Sánchez, G., ... Cedillo-Barrón, L. (2019). *Cross-Reaction, Enhancement, and Neutralization Activity of Dengue Virus Antibodies against Zika Virus: A Study in the Mexican Population. Journal of Immunology Research*, 2019, 1–14.
- Muñoz, L., Barreras, P., & Pardo, C. (2016). Zika Virus–Associated Neurological Disease in the Adult: Guillain–Barré Syndrome, Encephalitis, and Myelitis. *Seminars in Reproductive Medicine*, 34(05), 273–279.
- Nambala, P., & Su, W. C. (2018). Role of Zika Virus prM Protein in Viral Pathogenicity and Use in Vaccine Development. *Frontiers in microbiology*, 9, 1797.
- Ng, J., Zhang, S., Tan, H., Yan, B., Maria Martinez Gomez, J., & Tan, W. et al. (2014). First Experimental In Vivo Model of Enhanced Dengue Disease Severity through Maternally Acquired Heterotypic Dengue Antibodies. *Plos Pathogens*, 10(4), e1004031.
- O'Connor, M. A., Tisoncik-Go, J., Lewis, T. B., Miller, C. J., Bratt, D., Moats, C. R., Edlefsen, P. T., Smedley, J., Klatt, N. R., Gale, M., Jr, & Fuller, D. H. (2018). Early cellular innate immune responses drive Zika viral persistence and tissue tropism in pigtail macaques. *Nature communications*, 9(1), 3371.
- Omarjee, R., Prat, C., Flusin, O., Boucau, S., Tenebray, B., Merle, O., ... Leparc-Goffart, I. (2014). Importance of case definition to monitor ongoing outbreak of chikungunya virus on a background of actively circulating dengue virus, St Martin, December 2013 to January 2014. *Eurosurveillance*, 19(13), 20753.
- Oster, A., Russell, K., Stryker, J., Friedman, A., Kachur, R., & Petersen, E. et al. (2016). Update: Interim Guidance for Prevention of Sexual Transmission of Zika Virus — United States, 2016. *MMWR. Morbidity And Mortality Weekly Report*, 65(12), 323-325.

- Osuna, C. E., & Whitney, J. B. (2017). Nonhuman Primate Models of Zika Virus Infection, Immunity, and Therapeutic Development. *The Journal of infectious diseases*, 216(suppl_10), S928–S934.
- Palm, A. and Henry, C., 2019. Remembrance of Things Past: Long-Term B Cell Memory After Infection and Vaccination. *Frontiers in Immunology*, 10.
- Pantoja, P., Pérez-Guzmán, E. X., Rodríguez, I. V., White, L. J., González, O., Serrano, C., ... Sariol, C. A. (2017). *Zika virus pathogenesis in rhesus macaques is unaffected by pre-existing immunity to dengue virus*. *Nature Communications*, 8, 15674.
- Pardy, R. D., & Richer, M. J. (2019). Protective to a T: The Role of T Cells during Zika Virus Infection. *Cells*, 8(8), 820.
- Pérez-Guzmán, E., Pantoja, P., Serrano-Collazo, C., Hassert, M., Ortiz-Rosa, A., & Rodríguez, I. et al. (2019). Time elapsed between Zika and dengue virus infections affects antibody and T cell responses. *Nature Communications*, 10(1).
- Pessôa, R., Patriota, J. V., Lourdes de Souza, M. d., Felix, A. C., Mamede, N., & Sanabani, S. S. (2016). Investigation Into an Outbreak of Dengue-like Illness in Pernambuco, Brazil, Revealed a Cocirculation of Zika, Chikungunya, and Dengue Virus Type 1. *Medicine*, 95(12), e320.
- Pierson, T., & Diamond, M. (2008). Molecular mechanisms of antibody-mediated neutralisation of flavivirus infection. *Expert Reviews In Molecular Medicine*, 10.
- Priyamvada, L., Quicke, K. M., Hudson, W. H., Onlamoon, N., Sewatanon, J., Edupuganti, S., ... Wrammert, J. (2016). Human antibody responses after dengue virus infection are highly cross-reactive to Zika virus. *Proceedings of the National Academy of Sciences*, 113(28), 7852–7857.
- Rathore, A. P. S., & St. John, A. L. (2020). Cross-Reactive Immunity Among Flaviviruses. *Frontiers in Immunology*, 11.
- Rathore, A. P. S., Saron, W. A. A., Lim, T., Jahan, N., & St. John, A. L. (2019). Maternal immunity and antibodies to dengue virus promote infection and Zika virus-induced microcephaly in fetuses. *Science Advances*, 5(2), eaav3208.
- Rees, E. E., Petukhova, T., Mascarenhas, M., Pelcat, Y., & Ogden, N. H. (2018). Environmental and social determinants of population vulnerability to Zika virus emergence at the local scale. *Parasites & Vectors*, 11(1).
- Robbiani, D. F., Olsen, P. C., Costa, F., Wang, Q., Oliveira, T. Y., Nery, N., Jr, Aromolaran, A., do Rosário, M. S., Sacramento, G. A., Cruz, J. S., Khouri, R., Wunder, E. A., Jr, Mattos, A., de Paula Freitas, B., Sarno, M., Archanjo, G., Daltro, D., Carvalho, G., Pimentel, K., de Siqueira, I. C., ... Nussenzweig, M. C. (2019). Risk of Zika microcephaly correlates with features of maternal antibodies. *The Journal of experimental medicine*, 216(10), 2302–2315.
- Rothman, A.L., 2011. Immunity to dengue virus: a tale of original antigenic sin and tropical cytokine storms. *Nature Reviews Immunology*, 11(8), p.532.
- Rückert, C., Weger-Lucarelli, J., Garcia-Luna, S., Young, M., Byas, A., & Murrieta, R. et al. (2017). Impact of simultaneous exposure to arboviruses on infection and transmission by *Aedes aegypti* mosquitoes. *Nature Communications*, 8(1).
- Sariol, C., & White, L. (2014). Utility, Limitations, and Future of Non-Human Primates for Dengue Research and Vaccine Development. *Frontiers In Immunology*, 5.

- Saron, W. A. A., Rathore, A. P. S., Ting, L., Ooi, E. E., Low, J., Abraham, S. N., & St. John, A. L. (2018). Flavivirus serocomplex cross-reactive immunity is protective by activating heterologous memory CD4 T cells. *Science Advances*, 4(7), eaar4297.
- Serrano-Collazo, C., Pérez-Guzmán, E. X., Pantoja, P., Hassert, M. A., Rodríguez, I. V., Giavedoni, L., ... Sariol, C. A. (2020). *Effective control of early Zika virus replication by Dengue immunity is associated to the length of time between the 2 infections but not mediated by antibodies*. *PLOS Neglected Tropical Diseases*, 14(5), e0008285.
- Sheridan, M. A., Balaraman, V., Schust, D. J., Ezashi, T., Roberts, R. M., & Franz, A. (2018). African and Asian strains of Zika virus differ in their ability to infect and lyse primitive human placental trophoblast. *PLoS one*, 13(7), e0200086.
- Sironi, M., Forni, D., Clerici, M., & Cagliani, R. (2016). *Nonstructural Proteins Are Preferential Positive Selection Targets in Zika Virus and Related Flaviviruses*. *PLOS Neglected Tropical Diseases*, 10(9), e0004978.
- Slon-Campos, J., Dejnirattisai, W., Jagger, B., López-Camacho, C., Wongwiwat, W., & Durnell, L. et al. (2019). A protective Zika virus E-dimer-based subunit vaccine engineered to abrogate antibody-dependent enhancement of dengue infection. *Nature Immunology*, 20(10), 1291-1298.
- Song, B.-H., Yun, S.-I., Woolley, M., & Lee, Y.-M. (2017). *Zika virus: History, epidemiology, transmission, and clinical presentation*. *Journal of Neuroimmunology*, 308, 50–64.
- St. John, A. L., Rathore, A. P. S., Yap, H., Ng, M.-L., Metcalfe, D. D., Vasudevan, S. G., & Abraham, S. N. (2011). *Immune surveillance by mast cells during dengue infection promotes natural killer (NK) and NKT-cell recruitment and viral clearance*. *Proceedings of the National Academy of Sciences*, 108(22), 9190–9195.
- Stettler, K., Beltramello, M., Espinosa, D. A., Graham, V., Cassotta, A., Bianchi, S., ... Corti, D. (2016). Specificity, cross-reactivity, and function of antibodies elicited by Zika virus infection. *Science*, 353(6301), 823–826.
- Terzian, A. C. B., Schanoski, A. S., Mota, M. T. de O., da Silva, R. A., Estofolete, C. F., Colombo, T. E., ... Nogueira, M. L. (2017). *Viral Load and Cytokine Response Profile Does Not Support Antibody-Dependent Enhancement in Dengue-Primed Zika Virus-Infected Patients*. *Clinical Infectious Diseases*, 65(8), 1260–1265.
- Tian, Y., Grifoni, A., Sette, A., & Weiskopf, D. (2019). Human T Cell Response to Dengue Virus Infection. *Frontiers In Immunology*, 10.
- Valiant, W. G., Huang, Y. S., Vanlandingham, D. L., Higgs, S., Lewis, M. G., & Mattapallil, J. J. (2018). Zika convalescent macaques display delayed induction of anamnestic cross-neutralizing antibody responses after dengue infection. *Emerging microbes & infections*, 7(1), 130.
- Watanabe, S., Tan, N. W. W., Chan, K. W. K., & Vasudevan, S. G. (2018). Dengue and Zika Virus Serological Cross-reactivity and their Impact on Pathogenesis in Mice. *The Journal of Infectious Diseases*.
- Wen, J., & Shresta, S. (2019). Antigenic cross-reactivity between Zika and dengue viruses: is it time to develop a universal vaccine?. *Current opinion in immunology*, 59, 1–8.
- Winkler, C. W., Myers, L. M., Woods, T. A., Messer, R. J., Carmody, A. B., McNally, K. L., ... Peterson, K. E. (2017). Adaptive Immune Responses to Zika Virus Are Important for Controlling Virus Infection and Preventing Infection in Brain and Testes. *The Journal of Immunology*, 198(9), 3526–3535.
- World Health Organization. Countries and territories with current or previous Zika virus transmission. Updated July 2019. Accessible at: <https://www.who.int/emergencies/diseases/zika/countries-with-zika-and-vectors-table.pdf>

- Zambrano, H., Waggoner, J. J., Almeida, C., Rivera, L., Benjamin, J. Q., & Pinsky, B. A. (2016). Zika Virus and Chikungunya Virus CoInfections: A Series of Three Cases from a Single Center in Ecuador. *The American Journal of Tropical Medicine and Hygiene*, 95(4), 894–896.
- Zanluca, C., & dos Santos, C. N. D. (2016). Zika virus – an overview. *Microbes and Infection*, 18(5), 295–301.
- Zanluca, C., & dos Santos, C. N. D. (2016). *Zika virus – an overview*. *Microbes and Infection*, 18(5), 295–301.
- Zhang, X., Jia, R., Shen, H., Wang, M., Yin, Z., & Cheng, A. (2017). Structures and Functions of the Envelope Glycoprotein in Flavivirus Infections. *Viruses*, 9(11), 338.