

REFERENCES

- Allonsius, C. N., Van Beeck, W., De Boeck, I., Wittouck, S., & Lebeer, S. (2019). The microbiome of the invertebrate model host *Galleria mellonella* is dominated by *Enterococcus*. *Animal Microbiome*, 1(1). <https://doi.org/10.1186/s42523-019-0010-6>
- Avilan, L. (2023). Assembling Multiple Fragments: The Gibson Assembly. *Springer EBooks*, 45–53. https://doi.org/10.1007/978-1-0716-3004-4_4
- Bordat, A., Houvenaghel, M.-C., & German-Retana, S. (2015). Gibson assembly: an easy way to clone potyviral full-length infectious cDNA clones expressing an ectopic VPg. *Virology Journal*, 12. <https://doi.org/10.1186/s12985-015-0315-3>
- Caldwell, B. J., & Bell, C. E. (2019). Structure and mechanism of the Red recombination system of bacteriophage λ . *Progress in Biophysics and Molecular Biology*, 147, 33–46. <https://doi.org/10.1016/j.pbiomolbio.2019.03.005>
- Douzi, B., Spinelli, S., Blangy, S., Roussel, A., Durand, E., Brunet, Y. R., Cascales, E., & Cambillau, C. (2014). Crystal Structure and Self-Interaction of the Type VI Secretion Tail-Tube Protein from Enteroaggregative *Escherichia coli*. *PLoS ONE*, 9(2), e86918. <https://doi.org/10.1371/journal.pone.0086918>
- Durand, E., Nguyen, V. S., Zoued, A., Logger, L., Péhau-Arnaudet, G., Aschtgen, M.-S., Spinelli, S., Desmyter, A., Bardiaux, B., Dujancourt, A., Roussel, A., Cambillau, C., Cascales, E., & Fronzes, R. (2015). Biogenesis and structure of a type VI secretion membrane core complex. *Nature*, 523(7562), 555–560. <https://doi.org/10.1038/nature14667>
- Durieux, M.-F., Melloul, É., Jemel, S., Roisin, L., Dardé, M.-L., Guillot, J., Dannaoui, É., & Botterel, F. (2021). *Galleria mellonella* as a screening tool to study virulence factors of *Aspergillus fumigatus*. *Virulence*, 12(1), 818–834. <https://doi.org/10.1080/21505594.2021.1893945>
- Egan, M., Ramirez, J., Xander, C., Upreti, C., & Bhatt, S. (2016). Lambda Red-mediated Recombineering in the Attaching and Effacing Pathogen *Escherichia albertii*. *Biological Procedures Online*, 18, 3. <https://doi.org/10.1186/s12575-015-0032-8>
- Fajardo-Lubián, A., Zakour, B., Agyekum, A., & Iredell, J. R. (2018). *Host adaptation and convergent evolution increases antibiotic resistance without loss of virulence in a major human pathogen*. <https://doi.org/10.1101/370940>
- Fels, U., Gevaert, K., & Van Damme, P. (2020). Bacterial Genetic Engineering by Means of Recombineering for Reverse Genetics. *Frontiers in Microbiology*, 11. <https://doi.org/10.3389/fmicb.2020.548410>

- Ferry, A., Plaisant, F., Ginevra, C., Dumont, Y., Grando, J., Claris, O., Vandenesch, F., & Butin, M. (2020). Enterobacter cloacae colonization and infection in a neonatal intensive care unit: retrospective investigation of preventive measures implemented after a multiclonal outbreak. *BMC Infectious Diseases*, 20. <https://doi.org/10.1186/s12879-020-05406-8>
- Girlich, D., Ouzani, S., Emerald, C., Gauthier, L., Bonnin, R. A., Sache, N. L., Mokhtari, M., Langlois, I., Begasse, C., Arangia, N., Fournier, S., Fortineau, N., Naas, T., & Dortet, L. (2021). Uncovering the novel Enterobacter cloacae complex species responsible for septic shock deaths in newborns: a cohort study. *The Lancet Microbe*, 2(10), e536–e544. [https://doi.org/10.1016/S2666-5247\(21\)00098-7](https://doi.org/10.1016/S2666-5247(21)00098-7)
- Gleditsch, D., Pausch, P., Müller-Esparza, H., Özcan, A., Guo, X., Bange, G., & Randau, L. (2019). PAM identification by CRISPR-Cas effector complexes: diversified mechanisms and structures. *RNA Biology*, 16(4), 504–517. <https://doi.org/10.1080/15476286.2018.1504546>
- Guex, I., Mazza, C., Dubey, M., Batsch, M., Li, R., & Meer, J. R. van der. (2023). Regulated bacterial interaction networks: A mathematical framework to describe competitive growth under inclusion of metabolite cross-feeding. *PLOS Computational Biology*, 19(8), e1011402–e1011402. <https://doi.org/10.1371/journal.pcbi.1011402>
- Hernandez, R. E., Gallegos-Monterrosa, R., & Coulthurst, S. J. (2020). Type VI secretion system effector proteins: Effective weapons for bacterial competitiveness. *Cellular Microbiology*, 22(9). <https://doi.org/10.1111/cmi.13241>
- Kavanagh, K., & Sheehan, G. (2018). The Use of Galleria mellonella Larvae to Identify Novel Antimicrobial Agents against Fungal Species of Medical Interest. *Journal of Fungi*, 4(3), 113. <https://doi.org/10.3390/jof4030113>
- Kay, S., Edwards, J., Brown, J., & Dixon, R. (2019). Galleria mellonella Infection Model Identifies Both High and Low Lethality of Clostridium perfringens Toxigenic Strains and Their Response to Antimicrobials. *Frontiers in Microbiology*, 10. <https://doi.org/10.3389/fmicb.2019.01281>
- Jana, B., Keppel, K., Fridman, C. M., Bosis, E., & Salomon, D. (2022). Multiple T6SSs, Mobile Auxiliary Modules, and Effectors Revealed in a Systematic Analysis of the Vibrio parahaemolyticus Pan-Genome. *MSystems*, 7(6). <https://doi.org/10.1128/msystems.00723-22>
- Li, Y., Ruby, J., & Wu, H. (2015). Kanamycin Resistance Cassette for Genetic Manipulation of Treponema denticola. *Applied and Environmental Microbiology*, 81(13), 4329–4338. <https://doi.org/10.1128/AEM.00478-15>
- Li, B., Zhang, J., & Li, X. (2022). A comprehensive description of the TolC effect on the antimicrobial susceptibility profile in Enterobacter bugandensis. *Frontiers in Cellular and Infection Microbiology*, 12, 1036933. <https://doi.org/10.3389/fcimb.2022.1036933>

- Maleki-Ravasan, N., Oshaghi, M. A., Hajikhani, S., Saeidi, Z., Akhavan, A. A., Gerami-Shoar, M., Shirazi, M. H., Yakhchali, B., Rassi, Y., & Afshar, D. (2013). Aerobic Microbial Community of Insectary Population of *Phlebotomus papatasi*. *Journal of Arthropod-Borne Diseases*, 8(1), 69–81. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4289513/>
- Matteoli, F. P., Passarelli-Araujo, H., Pedrosa-Silva, F., Olivares, F. L., & Venâncio, T. M. (2020). Population structure and pangenome analysis of *Enterobacter bugandensis* uncover the presence of blaCTX-M-55, blaNDM-5 and blaIMI-1, along with sophisticated iron acquisition strategies. *Genomics*, 112(2), 1182–1191. <https://doi.org/10.1016/j.ygeno.2019.07.003>
- McCormick, A. M., Jarmusik, N. A., Endrizzi, E. J., & Leipzig, N. D. (2014). Expression, Isolation, and Purification of Soluble and Insoluble Biotinylated Proteins for Nerve Tissue Regeneration. *Journal of Visualized Experiments*, 83. <https://doi.org/10.3791/51295>
- Ménard, G., Rouillon, A., Cattoir, V., & Donnio, P.-Y. (2021). *Galleria mellonella* as a Suitable Model of Bacterial Infection: Past, Present and Future. *Frontiers in Cellular and Infection Microbiology*, 11. <https://doi.org/10.3389/fcimb.2021.782733>
- Mosberg, J. A. W. (2014). *Studying and Improving Lambda Red Recombination for Genome Engineering in Escherichia coli Terms of Use*. https://dash.harvard.edu/bitstream/handle/1/11156813/Mosberg_gsas.harvard_0084L_10777.pdf
- Mulani, M. S., Kamble, E. E., Kumkar, S. N., Tawre, M. S., & Pardesi, K. R. (2019). Emerging Strategies to Combat ESKAPE Pathogens in the Era of Antimicrobial Resistance: A Review. *Frontiers in Microbiology*, 10(539). <https://doi.org/10.3389/fmicb.2019.00539>
- Murphy, K. C. (2016). λ Recombination and Recombineering. *EcoSal Plus*, 7(1). <https://doi.org/10.1128/ecosalplus.esp-0011-2015>
- Ortiz, A., Vega, N. M., Ratzke, C., & Gore, J. (2021). Interspecies bacterial competition regulates community assembly in the *C. elegans* intestine. *The ISME Journal*, 15(7), 2131–2145. <https://doi.org/10.1038/s41396-021-00910-4>
- Pati, N. B., Doijad, S., Schultze, T., Mannala, G. K., Yao, Y., Jaiswal, S., Ryan, D., Suar, M., Gwozdziński, K., Bunk, B., Mraheil, M. A., Marahiel, M. A., Hegemann, J. D., Spröer, C., Goesmann, A., Falgenhauer, L., Hain, T., Imirzalioglu, C., Mshana, S. E., & Overmann, J. (2018). *Enterobacter bugandensis*: a novel enterobacterial species associated with severe clinical infection. *Scientific Reports*, 8(1). <https://doi.org/10.1038/s41598-018-23069-z>
- Pissaridou, P., Allsopp, L. P., Wettstadt, S., Howard, S. A., Mavridou, D. A. I., & Filloux, A. (2018). The *Pseudomonas aeruginosa* T6SS-VgrG1b spike is topped by a PAAR protein eliciting DNA

- damage to bacterial competitors. *Proceedings of the National Academy of Sciences of the United States of America*, 115(49), 12519–12524. <https://doi.org/10.1073/pnas.1814181115>
- Rabe, B. A., & Cepko, C. L. (2020). A Simple Enhancement for Gibson Isothermal Assembly. <https://doi.org/10.1101/2020.06.14.150979>
- Rawson, T. M., Moore, L. S. P., Zhu, N., Ranganathan, N., Skolimowska, K., Gilchrist, M., Satta, G., Cooke, G., & Holmes, A. (2020). Reply to Dudoignon et al. *Clinical Infectious Diseases*, 72(5), 906–908. <https://doi.org/10.1093/cid/ciaa767>
- Sagi, S., Konduru, B., & Parida, M. (2020). Heterologous expression of Intimin and IpaB fusion protein in *Lactococcus lactis* and its mucosal delivery elicit protection against pathogenicity of *Escherichia coli* O157 and *Shigella flexneri* in a murine model. *International Immunopharmacology*, 85, 106617. <https://doi.org/10.1016/j.intimp.2020.106617>
- Sánchez-Busó, L., & Harris, S. R. (2019). Using genomics to understand antimicrobial resistance and transmission in *Neisseria gonorrhoeae*. *Microbial Genomics*, 5(2). <https://doi.org/10.1099/mgen.0.000239>
- Serrano, I., Verdial, C., Tavares, L., & Oliveira, M. (2023). The Virtuous *Galleria mellonella* Model for Scientific Experimentation. *Antibiotics*, 12(3), 505. <https://doi.org/10.3390/antibiotics12030505>
- SGI DNA. (2017). Gibson Assembly® Cloning Guide. *BioCat*. https://www.biocat.com/bc/files/Gibson_Guide_V2_101417_web_version_8.5_x_11_FINAL.pdf
- Singh, N. K., Bezdán, D., Checinska Sielaff, A., Wheeler, K., Mason, C. E., & Venkateswaran, K. (2018). Multi-drug resistant *Enterobacter bugandensis* species isolated from the International Space Station and comparative genomic analyses with human pathogenic strains. *BMC Microbiology*, 18(1). <https://doi.org/10.1186/s12866-018-1325-2>
- Stapleton, P. J., Murphy, M., McCallion, N., Brennan, M., Cunney, R., & Drew, R. J. (2015). Outbreaks of extended-spectrum beta-lactamase-producing Enterobacteriaceae in neonatal intensive care units: a systematic review. *Archives of Disease in Childhood - Fetal and Neonatal Edition*, 101(1), 72–78. <https://doi.org/10.1136/archdischild-2015-308707>
- Stubbendieck, R. M., & Straight, P. D. (2016). Multifaceted Interfaces of Bacterial Competition. *Journal of Bacteriology*, 198(16), 2145–2155. <https://doi.org/10.1128/jb.00275-16>
- Thomason, L. C., Sawitzke, J. A., Li, X., Costantino, N., & Court, D. L. (2014). Recombineering: Genetic Engineering in Bacteria Using Homologous Recombination. *Current Protocols in Molecular Biology*, 106(1). <https://doi.org/10.1002/0471142727.mb0116s106>

- Tomiotto-Pellissier, F., Henrique, A., Orsini, T. M., Paula, A., Dalevedo, G. A., de, G., Panagio, L. A., Costa, I. N., Conchon-Costa, I., Pavanelli, W. R., & Almeida, R. S. (2016). Galleria mellonella hemocytes: A novel phagocytic assay for Leishmania (Viannia) braziliensis. *Journal of Microbiological Methods*, *131*, 45–50. <https://doi.org/10.1016/j.mimet.2016.10.001>
- Wan, B., Zhang, Q., Ni, J., Li, S., Wen, D., Li, J., Xiao, H., He, P., Ou, H.-Y., Tao, J., Teng, Q., Lu, J., Wu, W., & Yao, Y. (2017). Type VI secretion system contributes to Enterohemorrhagic *Escherichia coli* virulence by secreting catalase against host reactive oxygen species (ROS). *PLOS Pathogens*, *13*(3), e1006246–e1006246. <https://doi.org/10.1371/journal.ppat.1006246>
- Whitney, J. C., Peterson, S. B., Kim, J., Pazos, M., Verster, A. J., Radey, M. C., Kulasekara, H. D., Ching, M. Q., Bullen, N. P., Bryant, D., Goo, Y. A., Surette, M. G., Borenstein, E., Vollmer, W., & Mougous, J. D. (2017). A broadly distributed toxin family mediates contact-dependent antagonism between gram-positive bacteria. *ELife*, *6*. <https://doi.org/10.7554/elife.26938>
- Whitney, J. C., Quentin, D., Sawai, S., LeRoux, M., Harding, B. N., Ledvina, H. E., Tran, B. Q., Robinson, H., Goo, Y. A., Goodlett, D. R., Raunser, S., & Mougous, J. D. (2015). An Interbacterial NAD(P)+ Glycohydrolase Toxin Requires Elongation Factor Tu for Delivery to Target Cells. *Cell*, *163*(3), 607–619. <https://doi.org/10.1016/j.cell.2015.09.027>
- Wingfield, P. T. (2015). Overview of the Purification of Recombinant Proteins. *Current Protocols in Protein Science*, *80*(6), 6.1.1–6.1.35. <https://doi.org/10.1002/0471140864.ps0601s80>
- Wu, C.-Y., Smith, D. A., Lai, E.-M., & Chang, J. H. (2018). The Agrobacterium Type VI Secretion System: A Contractile Nanomachine for Interbacterial Competition. *Current Topics in Microbiology and Immunology*, 215–231. https://doi.org/10.1007/82_2018_99
- Yang, M., Lv, Y., Xiao, J., Wu, H., Zheng, H., Liu, Q., Zhang, Y., & Wang, Q. (2013). Edwardsiella Comparative Phylogenomics Reveal the New Intra/Inter-Species Taxonomic Relationships, Virulence Evolution and Niche Adaptation Mechanisms. *PLoS ONE*, *7*(5), e36987. <https://doi.org/10.1371/journal.pone.0036987>
- Yang, H.-F., Pan, A.-J., Hu, L.-F., Liu, Y.-Y., Cheng, J., Ye, Y., & Li, J.-B. (2017). Galleria mellonella as an in vivo model for assessing the efficacy of antimicrobial agents against Enterobacter cloacae infection. *Journal of Microbiology, Immunology and Infection*, *50*(1), 55–61. <https://doi.org/10.1016/j.jmii.2014.11.011>
- Zhou, Y., Tao, J., Yu, H., Ni, J., Zeng, L., Teng, Q., Kim, K. S., Zhao, G.-P., Guo, X., & Yao, Y. (2011). Hcp Family Proteins Secreted via the Type VI Secretion System Coordinately Regulate *Escherichia coli* K1 Interaction with Human Brain Microvascular Endothelial Cells. *Infection and Immunity*, *80*(3), 1243–1251. <https://doi.org/10.1128/iai.05994-11>

- Zong, B., Zhang, Y., Wang, X., Liu, M., Zhang, T., Zhu, Y., Zheng, Y., Hu, L., Li, P., Chen, H., & Tan, C. (2019). Characterization of multiple type-VI secretion system (T6SS) VgrG proteins in the pathogenicity and antibacterial activity of porcine extra-intestinal pathogenic *Escherichia coli*. *Virulence*, *10*(1), 118–132. <https://doi.org/10.1080/21505594.2019.1573491>
- Zoued, A., Brunet, Y. R., Durand, E., Aschtgen, M.-S., Logger, L., Douzi, B., Journet, L., Cambillau, C., & Cascales, E. (2014). Architecture and assembly of the Type VI secretion system. *Biochimica et Biophysica Acta (BBA) - Molecular Cell Research*, *1843*(8), 1664–1673. <https://doi.org/10.1016/j.bbamcr.2014.03.018>