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- [32] Heurlier K, Denervaud V, Haenni M, et al. Quorum-sensing-negative (lasR) mutants of *Pseudomonas aeruginosa* avoid cell lysis and death[J]. J Bacteriol, 2005, 187(14): 4875-4883.
- [33] Mielko KA, Jablonski SJ, Milczewska J, et al. Metabolomic studies of *Pseudomonas aeruginosa*[J]. World J Microbiol Biotechnol, 2019, 35(11): 178.
- [34] Ochsner UA, Koch AK, Fiechter A, et al. Isolation and characterization of a regulatory gene affecting rhamnolipid biosurfactant synthesis in *Pseudomonas aeruginosa*[J]. J Bacteriol, 1994, 176(7): 2044-2054.
- [35] Welsh MA, Blackwell HE. Chemical genetics reveals environment-specific roles for quorum sensing circuits in *Pseudomonas aeruginosa*[J]. Cell Chem Biol, 2016, 23(3): 361-369.
- [36] Limmer S, Haller S, Drenkard E, et al. *Pseudomonas aeruginosa* RhIR is required to neutralize the cellular immune response in a *Drosophila melanogaster* oral infection model[J]. PNAS, 2011, 108(42): 17378-17383.
- [37] Haller S, Franchet A, Hakkim A, et al. Quorum-sensing regulator RhIR but not its autoinducer RhII enables *Pseudomonas* to evade opsonization[J]. EMBO Rep, 2018, 19(5): e44880.
- [38] Kaufmann GF, Sartorio R, Lee SH, et al. Antibody interference with N-acyl homoserine lactone-mediated bacterial quorum sensing[J]. J Am Chem Soc, 2006, 128(9): 2802-2803.
- [39] Kaufmann GF, Park J, Mee JM, et al. The quorum quenching antibody RS2-1G9 protects macrophages from the cytotoxic effects of the *Pseudomonas aeruginosa* quorum sensing signalling molecule N-3-oxo-dodecanoyl-homoserine lactone[J]. Mol Immunol, 2008, 45(9): 2710-2714.
- [40] Palliyil S. Generation of high-sensitivity monoclonal antibodies specific for homoserine lactones[J]. Methods Mol Biol, 2018 (1673): 325-352.
- [41] Miyairi S, Tateda K, Fuse ET, et al. Immunization with 3-oxododecanoyl-L-homoserine lactone-protein conjugate protects mice from lethal *Pseudomonas aeruginosa* lung infection[J]. J Med Microbiol, 2006, 55(10): 1381-1387.
- [42] 何爱琳, 李文柱. 铜绿假单胞菌 PcrV 疫苗研制现状[J]. 中国病原生物学杂志, 2020, 15(6): 737-741.
- [43] Golpasha ID, Mousavi SF, Owlia P, et al. Immunization with 3-oxododecanoyl-L-homoserine lactone-rPcrV conjugate enhances survival of mice against lethal burn infections caused by *Pseudomonas aeruginosa*[J]. Bosn J Basic Med Sci, 2015, 15(2): 15-24.
- [44] 皆静, 王军, 高磊, 等. 铜绿假单胞菌 LasR 蛋白的表达及抗血清制备[J]. 微生物学免疫学进展, 2017, 45(5): 11-15.
- [45] 皆静, 王军, 高磊, 等. 铜绿假单胞菌 RhIR 抗血清制备[J]. 中国生物制品学杂志, 2019, 32(1): 72-75.
- [46] Xie Y, Zeng W, Jia WX, et al. Functional effects of LasR/RhIR on *Pseudomonas aeruginosa* biofilm development and lung infections in mice[J]. Progress Biochem Biophys, 2006, 33(1): 31-38.
- [47] Ding C, Ma J, Dong Q, et al. Live bacterial vaccine vector and delivery strategies of heterologous antigen: a review[J]. Immunol Lett, 2018, 197(1): 70-77.

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- [34] Baugh S, Phillips CR, Ekanayaka AS, et al. Webber MA. Inhibition of multidrug efflux as a strategy to prevent biofilm formation[J]. Antimicrob Chemother, 2014, 69(3): 673-681.
- [35] Stephanie B, Aruna SE, Laura JV, et al. Loss of or inhibition of all multidrug resistance efflux pumps of *Salmonella enterica* serovar *Typhimurium* results in impaired ability to form a biofilm.[J]. J Antimicrob Chemother, 2012, 67(10): 2409-2417.
- [36] Fontaine F, Hequet A, Voisin-Chiret AS, et al. First identification of boronic species as novel potential inhibitors of the *Staphylococcus aureus* norA efflux pump[J]. J Med Chem, 2014, 57(6): 2536-2548.
- [37] Zimmermann S, Klingner-Strobel M, J rgen A. Bohnert, et al. Clinically approved drugs inhibit the *Staphylococcus aureus* multidrug norA efflux pump and reduce biofilm formation[J]. Front Microbiol, 2019(10): 2762.
- [38] Soothill J. Use of bacteriophages in the treatment of *Pseudomonas aeruginosa* infections[J]. Expert Rev Anti Infect Ther, 2014, 11(9): 909-915.
- [39] Kim S, Rahman M, Seol SY, et al. *Pseudomonas aeruginosa* bacteriophage PA10 requires type IV Pili for infection and shows broad bactericidal and biofilm removal activities[J]. Appl Environ Microbiol, 2012, 78(17): 6380-6385.
- [40] Allison KR, Brynildsen MP, Collins JJ. Metabolite-enabled eradication of bacterial persisters by aminoglycosides[J]. Nature, 2011, 473(7346): 216-220.
- [41] Marques C, David D, Karin S. Control of biofilms with the fatty acid signaling molecule cis-2-decenoic acid[J]. Pharmaceuticals, 2015, 8(4): 816-835.

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