

## PUBLICATIONS

1. Scoffone VC, Trespidi G, Chiarelli LR, Barbieri G, **Buroni S§**. Quorum sensing as antivirulence target in cystic fibrosis pathogens. (2019) *Int J Mol Sci*. 20. pii: E1838.
2. Sass A, Slachmuylders L, Van Acker H, Vandenbussche I, Ostyn L, Bové M, Crabbé A, Chiarelli LR, **Buroni S**, Van Nieuwerburgh F, Abatih E, Coenye T. (2019) Various evolutionary trajectories lead to loss of the tobramycin potentiating activity of the quorum sensing inhibitor baicalin hydrate in *Burkholderia cenocepacia* biofilms. *Antimicrobial Agents and Chemotherapy* 63.pii: e02092-18.
3. Rahman T, Seraj F, **Buroni S**. (2018) Lessons from *Vibrio* pathogen and the comparative study of vaccines developed. *Advances in Microbiology* 8: 950-964.
4. Hogan AM, Scoffone VC, Makarov V, Gislason AS, Tesfu H, Stietz MS, Brassinga AKC, Domaratzki M, Li X, Azzalin A, Biggiogera M, Riabova O, Monakhova N, Chiarelli LR, Riccardi G, **Buroni S§**, Cardona ST. (2018) Competitive fitness of essential gene knockdowns reveals a broad-spectrum antibacterial inhibitor of the cell division protein FtsZ. *Antimicrobial Agents and Chemotherapy* 62. pii: e01231-18.
5. **Buroni S\***, Scoffone VC\*, Fumagalli M, Makarov V, Trespidi G, De Rossi E, Forneris F, Riccardi G, Chiarelli LR. (2018) Investigating the mechanism of action of diketopiperazines inhibitors of the *Burkholderia cenocepacia* quorum sensing synthase CepI: a site directed mutagenesis study. *Frontiers in Pharmacology* 9: 836. (\*equal contributors).
6. Perrin E, Maggini V, Maida I, Gallo E, Lombardo K, Madarena MP, **Buroni S**, Scoffone VC, Firenzuoli F, Mengoni A, Fani R. (2018) Antimicrobial activity of six essential oils against *Burkholderia cepacia* complex: insights into mechanism(s) of action. *Future Microbiology* 13: 59-67.
7. Perrin E, Fondi M, Bosi E, Mengoni A, **Buroni S**, Scoffone VC, Valvano M, Fani R. (2017) Subfunctionalization influences the expansion of bacterial multidrug antibiotic resistance. *BMC Genomics* 18: 834.
8. Scoffone VC, Chiarelli LR, Trespidi G, Mentasti M, Riccardi G, **Buroni S§**. (2017) *Burkholderia cenocepacia* infections in cystic fibrosis patients: drug resistance and therapeutic approaches. *Frontiers in Microbiology* 8: 1592.
9. Israyilova A\*, **Buroni S\***, Forneris F, Scoffone VC, Shixaliyev NQ, Riccardi G, Chiarelli LR. (2016) Biochemical characterization of glutamate racemase-a new candidate drug target against *Burkholderia cenocepacia* infections. *PLoS One* 11: e0167350. (\*equal contributors).
10. Scoffone VC, Chiarelli LR, Makarov V, Brackman G, Israyilova A, Azzalin A, Forneris F, Riabova O, Savina S, Coenye T, Riccardi G, **Buroni S§**. (2016) Discovery of new diketopiperazines inhibiting *Burkholderia cenocepacia* quorum sensing *in vitro* and *in vivo*. *Scientific Reports* 6: 32487.
11. Spadaro F, Scoffone VC, Chiarelli LR, Fumagalli M, **Buroni S**, Riccardi G, Forneris F. (2016) The crystal structure of *Burkholderia cenocepacia* DfsA provides insights into substrate recognition and quorum sensing fatty acid biosynthesis. *Biochemistry* 55: 3241-3250.
12. Scoffone VC, Ryabova O, Makarov V, Iadarola P, Fumagalli M, Fondi M, Fani R, De Rossi E, Riccardi G, **Buroni S§**. (2015) Efflux-mediated resistance to a benzothiadiazol derivative effective against *Burkholderia cenocepacia*. *Frontiers in Microbiology* 6: 815.
13. **Buroni S\***, Matthijs N, Spadaro F, Van Acker H, Scoffone VC, Pasca MR, Riccardi G, Coenye T. (2014) Differential roles of RND efflux pumps in antimicrobial drug resistance of sessile and planktonic *Burkholderia cenocepacia* cells. *Antimicrobial Agents and Chemotherapy* 58: 7424-7429.
14. Albesa-Jové D, Chiarelli LR, Makarov V, Pasca MR, Urresti S, Mori G, Salina E, Vocat A, Comino N, Mohorko E, Ryabova S, Pfeiffer B, de Jesus Lopes Ribeiro AL, Rodrigo-Unzueta A, Tera M, Zanoni G, **Buroni S**, Altmann KH, Hartkoorn RC, Glockshuber R, Cole ST, Riccardi G, Guerin ME. (2014) Rv2466c mediates the activation of TP053 to kill replicating and nonreplicating *Mycobacterium tuberculosis*. *ACS Chemical Biology* 9: 1567-1575.
15. Scoffone VC, Spadaro F, Udine C, Makarov V, Fondi M, Fani R, De Rossi E, Riccardi G, **Buroni S§**. (2014) Mechanism of resistance to an antitubercular 2-thiopyridine derivative that is also active against *Burkholderia cenocepacia*. *Antimicrobial Agents and Chemotherapy* 58: 2415-2417.
16. Perrin E, Fondi M, Papaleo MC, Maida I, Emiliani G, **Buroni S**, Pasca MR, Riccardi G, Fani R. (2013) A census of RND-superfamily proteins in the *Burkholderia* genus. *Future Microbiology* 8: 923-937.

17. Gamberi T, Rocchiccioli S, Papaleo MC, Magherini F, Citti L, **Buroni S**, Bazzini S, Udine C, Perrin E, Modesti A, Fani R. (2013) RND-4 efflux transporter gene deletion in *Burkholderia cenocepacia* J2315: a proteomic analysis. *Journal of Protein Science and Computational Biology* 2: 1.
18. Udine C, Brackman G, Bazzini S, **Buroni S**, Van Acker H, Pasca MR, Riccardi G, Coenye T. (2013) Phenotypic and genotypic characterisation of *Burkholderia cenocepacia* J2315 mutants affected in homoserine lactone and diffusible signal factor-based quorum sensing systems suggests interplay between both types of systems. *PLoS ONE* 8: e55112.
19. Neres J, Pojer F, Molteni E, Chiarelli LR, Dhar N, Boy-Röttger S, **Buroni S**, Fullam E, Degiacomi G, Lucarelli AP, Read RJ, Zanoni G, Edmondson DE, De Rossi E, Pasca MR, McKinney JD, Dyson PJ, Riccardi G, Mattevi A, Cole ST, Binda C. (2012) Structural basis for benzothiazinone-mediated killing of *Mycobacterium tuberculosis*. *Science Translational Medicine* 4: 150ra121.
20. Trefzer C, Škovierová H, **Buroni S**, Bobovská A, Nenci S, Molteni E, Pojer F, Pasca MR, Makarov V, Cole ST, Riccardi G, Mikušová K, Johnsson K. (2012) Benzothiazinones are suicide inhibitors of mycobacterial decaprenylphosphoryl- $\beta$ -D-ribofuranose 2'-oxidase DprE1. *Journal of the American Chemical Society* 134: 912-915.
21. La Rosa V, Poce G, Ortiz-Canseco J, **Buroni S**, Pasca MR, Biava M, Raju RM, Porretta GC, Alfonso S, Battilocchio C, Javid B, Sorrentino F, Ioerger TR, Sacchettini JC, Manetti F, Botta M, De Logu A, Rubin E, De Rossi E. (2012) MmpL3 protein is a cellular target of the antitubercular pyrrole derivative BM212. *Antimicrobial Agents and Chemotherapy* 56: 324-331.
22. Pasca MR, Dalla Valle C, de Jesus Lopes Ribeiro AL, **Buroni S**, Papaleo MC, Bazzini S, Udine C, Incandela ML, Daffara S, Fani R, Riccardi G, Marone G. (2012) Evaluation of fluoroquinolone resistance mechanisms in *Pseudomonas aeruginosa* MDR clinical isolates. *Microbial Drug Resistance* 18: 23-32.
23. de Jesus Lopes Ribeiro AL, Degiacomi G, Ewann F, **Buroni S**, Incandela ML, Kim J, Contreras-Dominguez M, Park Y-S, Han S-J, Chiarelli LR, Brodin P, Valentini G, Rizzi M, Riccardi G, Pasca MR. (2011) Analogous mechanisms of resistance to benzothiazinones and dinitrobenzamides in *Mycobacterium smegmatis*. *PLoS ONE* 6: e26675.
24. Bazzini S, Udine C, Sass A, Pasca MR, Longo F, Emiliani G, Fondi M, Perrin E, Decorosi F, Viti C, Giovannetti L, Leoni L, Fani R, Riccardi G, Mahenthalingam E, **Buroni S**. (2011) Deciphering the role of RND efflux transporters in *Burkholderia cenocepacia*. *PLoS ONE* 6: e18902.
25. Coenye T, Van Acker H, Peeters E, Sass A, **Buroni S**, Riccardi G, Mahenthalingam E. (2011) Molecular mechanisms of chlorhexidine tolerance in *Burkholderia cenocepacia* biofilms. *Antimicrobial Agents and Chemotherapy* 55: 1912-1919.
26. Lucarelli AP, **Buroni S**, Pasca MR, Rizzi M, Cavagnino A, Valentini G, Riccardi G, Chiarelli LR. (2010) *Mycobacterium tuberculosis* phosphoribosylpyrophosphate synthetase: biochemical features of a crucial enzyme for mycobacterial cell wall biosynthesis. *PLoS ONE* 5: e15494.
27. Manina G, Pasca MR, **Buroni S**, De Rossi E, Riccardi G. (2010) Decaprenylphosphoryl- $\beta$ -D-ribose 2'-epimerase from *Mycobacterium tuberculosis* is a magic drug target. *Current Medicinal Chemistry* 17: 3099-3108.
28. Manina G, Bellinzoni M, Pasca MR, Neres J, Milano A, Ribeiro AL, **Buroni S**, Skovierová H, Dianišková P, Mikušová K, Marák J, Makarov V, Giganti D, Haouz A, Lucarelli AP, Degiacomi G, Piazza A, Chiarelli LR, De Rossi E, Salina E, Cole ST, Alzari PM, Riccardi G. (2010) Biological and structural characterization of the *Mycobacterium smegmatis* nitroreductase NfnB, and its role in benzothiazinone resistance. *Molecular Microbiology* 77: 1172-1185.
29. Perrin E, Fondi M, Papaleo MC, Maida I, **Buroni S**, Pasca MR, Riccardi G, Fani R. (2010) Exploring the HME and HAE1 efflux systems in the genus *Burkholderia*. *BMC Evolutionary Biology* 10: 164.
30. Bellinzoni M, **Buroni S**, Schaeffer F, Riccardi G, De Rossi E, Alzari PM. (2009) Structural plasticity and distinct drug-binding modes of LfrR, a mycobacterial efflux pump regulator. *Journal of Bacteriology* 191: 7531-7537.
31. **Buroni S\***, Pasca MR, Flannagan RS, Bazzini S, Milano A, Bertani I, Venturi V, Valvano MA, Riccardi G. (2009) Assessment of three Resistance-Nodulation-Cell Division drug efflux transporters of *Burkholderia cenocepacia* in intrinsic antibiotic resistance. *BMC Microbiology* 9: 200.
32. Riccardi G, Pasca MR, **Buroni S**. (2009) *Mycobacterium tuberculosis*: drug resistance and future perspectives. *Future Microbiology* 4: 597-614.
33. Makarov V, Manina G, Mikusova K, Möllmann U, Ryabova O, Saint-Joanis B, Dhar N, Pasca MR, **Buroni S**, Lucarelli AP, Milano A, De Rossi E, Belanova M, Bobovska A, Dianiskova P, Kordulakova J, Sala C, Fullam E, Schneider P, McKinney JD, Brodin P, Christophe T, Waddell S, Butcher P, Albrethsen J, Rosenkrands I, Brosch R, Nandi V,

- Bharath S, Gaonkar S, Shandil RK, Balasubramanian V, Balganesht T, Tyagi S, Grosset J, Riccardi G, Cole ST. (2009) Benzothiazinones kill *Mycobacterium tuberculosis* by blocking arabinan synthesis. *Science* 324: 801-804.
34. **Buroni S\***, Manina G, Guglierame P, Pasca MR, Riccardi G, De Rossi E. (2006) LfrR is a repressor that regulates expression of the efflux pump LfrA in *Mycobacterium smegmatis*. *Antimicrobial Agents and Chemotherapy* 50: 4044-4052.
35. Guglierame P, Pasca MR, De Rossi E, **Buroni S**, Arrigo P, Manina G, Riccardi G. (2006) Efflux pump genes of the resistance-nodulation-division family in *Burkholderia cenocepacia* genome. *BMC Microbiology* 6: 66.
36. Bellinzoni M, **Buroni S**, Pasca MR, Guglierame P, Arcesi F, De Rossi E, Riccardi G. (2005) Glutamine amidotransferase activity of NAD<sup>+</sup> synthetase from *Mycobacterium tuberculosis* depends on an amino-terminal nitrilase domain. *Research in Microbiology* 156: 173-177.

#### **Book chapters:**

1. Scoffone VC, Coenye T, Riccardi G, **Buroni S**. (2016) Drug efflux pumps in *Burkholderia*. Chapter 15 for the book: "Efflux-Mediated Antimicrobial Resistance in Bacteria". Springer Link. ISBN: 978-3-319-39656-9.
2. Bazzini S, **Buroni S**, Udine C, Pasca MR, Riccardi G. (2014) Molecular basis for antibiotic resistance in the genus *Burkholderia*. Chapter 9 for the book: "*Burkholderia*: from genomes to function". Caister Academic Press. ISBN: 978-1-908230-35-5.
3. Pasca MR, Riccardi G, **Buroni S**. (2013) *Mycobacterium tuberculosis* efflux pumps: an update. Chapter 8 for the book: "Microbial Efflux Pumps: Current Research". Caister Academic Press. ISBN: 978-1-908230-21-8.
4. **Buroni S**, Riccardi G, Pasca MR. (2012) Fighting against resistant strains: the case of benzothiazinones and dinitrobenzamides. Chapter for the book: "*Mycobacterium tuberculosis*/Book 2". InTech Press. ISBN 978-953-307-948-6.