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Infection and Immunity Program

OTHER PROGRAM AFFILIATIONS



Metabolic Disease
and Obesity

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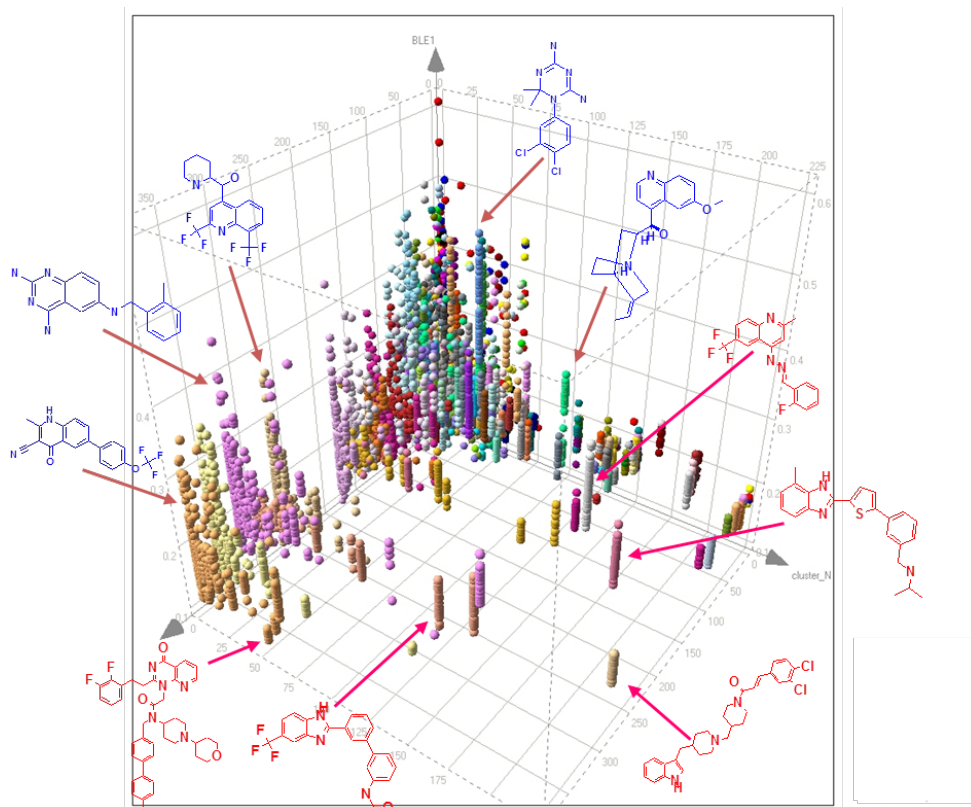
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The focus of our group is to identify essential, drugable cellular and biochemical pathways in microbial pathogens using small-molecule inhibitors known to kill the microorganism selectively. Identifying the molecular target(s) informs prioritisation of inhibitors and enables their development as anti-infective drugs.

Research Projects

1. Identification of the mechanisms of anti-malarial action of protein kinase inhibitors



Cheminformatic clustering of screening hits showing structures grouping with known antimalarials (blue) as well as clusters with novel structures (red)

Selected significant publications:

- Martinez-Hoyos M, Perez-Herran E, Gulten G, Encinas L, Álvarez-Gómez D, Alvarez E, Ferrer-Bazaga S, García-Pérez A, Ortega F, Angulo-Barturen I, Rullas-Trincado J, Blanco Ruano D, Torres P, Castañeda P, Huss S, Fernández Menéndez R, González del Valle S, Ballell L, Barros, D, Modha S, Dhar N, Signorino-Gelo F, McKinney JD, **García-Bustos JF**, Lavandera JL, Sacchettiini JC, Jimenez MS, Martín-Casabona N, Castro-Pichel J and Mendoza-Losana A. 2016. Antitubercular drugs for an old target: GSK693 as a promising InhA direct inhibitor. *EBioMedicine* doi: 10.1016/j.ebiom.2016.05.006.
- Dong CK, Urgaonkar S, Cortese JF, Gamo FJ, **García-Bustos JF**, Lafuente MJ, Patel V, Ross L, Coleman BI, Derbyshire ER, Clish CB, Serrano AE, Cromwell M, Barker RH Jr, Dvorin JD, Duraisingh MT, Wirth DF, Clardy J and Mazitschek R. 2011. Identification and validation of tetracyclic benzothiazepines as *Plasmodium falciparum* cytochrome bc1 inhibitors. *Chem Biol* 18(12), 1602-1610.
- Sanz LM, Jimenez-Diaz MB, Crespo B, De-Cozar C, Almela MJ, Angulo-Barturen I, Castaneda P, Ibanez J, Fernandez EP, Ferrer S, Herreros E, Lozano S, Martinez MS, Rueda L, Burrows JN, **García-Bustos JF** and Gamo FJ. 2011. Cyclopropyl carboxamides, a chemically novel class of antimalarial agents identified in a phenotypic screen. *Antimicrob Agents Chemother* 55(12), 5740-5745.
- Gamo FJ, Sanz LM, Vidal J, de Cozar C, Alvarez E, Lavandera JL, Vanderwall DE, Green DV, Kumar V, Hasan S, Brown JR, Peishoff CE, Cardon LR and **García-Bustos JF**. 2010. Thousands of Chemical Starting Points for Antimalarial Lead Identification. *Nature* 465 (7296): 305-10.
- Dopazo J, Mendoza A, Herrero J, Caldara F, Humbert Y, Friedli L, Guerrier M, Grand-Schenk E, Gandin C, de Francesco M, Polissi A, Buell G, Feger G, Garcia E, Peitsch M, **García-Bustos JF**. 2001. Annotated draft genomic sequence from a *Streptococcus pneumoniae* type 19F clinical isolate. *Microb Drug Resist*, 7(2), 99-125.