

Dr. Lorca is interested in the biology of one-component transcriptional regulators (TF). They are involved in the regulation of the gene expression in response to a wide variety of intracellular and environmental signals. Her lab is particularly interested in the identification of those small signal molecules using high throughput screening of small molecule, and in how the small molecule/TF interactions can be modified/optimized. Using this strategy the native molecule that modulate the activity of TFs belonging to the IclR, LysR and MarR families were identified. Using a similar approach, synthetic molecules that act as competitive inhibitors were identified and used as new antimicrobials.