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Targeting the *Mycobacterium tuberculosis* signaling network for antibiotics

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Signaling and communication are vital for organisms to survive and thrive. The signaling nodes are emerging antibiotic targets. To ease the drug resistance of *Mycobacterium tuberculosis* and the shortage of arsenal against tuberculosis, drug for new targets is imperative. The dawning of the components of *M.tuberculosis* signaling network justify them as ideal antibiotic targets. Two-component systems□TCS□, eukaryotic-like Ser/Thr protein kinases- Phosphatase system□STPKs- Mst□, Protein tyrosine kinase-Phosphatase system□PTK□and Extracytoplasmic function sigma factor-anti-sigma factor system (ECF σ -anti- σ) are the major subset of this network. Some promising leads against this web demonstrate good efficacy. The signaling network are recognized as a rich source for vaccine candidates and immunological serodiagnostical markers, such as MtrA and *phoP*. Our lab focus on the STPK and are gaining some insights into their protein-protein interaction.

Keywords: *Mycobacterium tuberculosis*, signaling network, drug target, protein-protein interaction