

Evolution of secondary metabolism in *Streptomyces*

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The mechanisms by which new functions are evolved in bacteria are topics of considerable current interest. We are interested in understanding how bacterial evolve pathways for production of secondary metabolites. In these studies, we have focused on the role(s) of intragenomic homologs in facilitating acquisition of new function. In our studies, we focus on distribution, mechanisms and evolution of GTP cyclohydrolase I and II proteins. I will present our current working models on how intragenomic duplicates of GTP cyclohydrolases have led to acquisition of new biosynthetic pathways in *Streptomyces*.

