

The impact of SepIVA depletion on MurG localization during cell division in Mycobacterium smegmatis.

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Abstract: Cell division in bacteria requires that cell wall enzymes and regulators are recruited to the midcell division site. In Mycobacteria, it is unknown how cell wall enzymes are recruited to the division site. MurG is an enzyme in peptidoglycan precursor biosynthesis. SepIVA is essential for cell division in *Mycobacterium smegmatis* and has been shown to influence MurG localization. In this study, we explore the impact of SepIVA depletion on MurG distribution. We use a strain of *M. smegmatis* in which we can induce degradation of SepIVA, and we then track MurG distribution using a fluorescent protein fusion. This study will illuminate the importance of SepIVA in maintaining MurG localization and potentially regulating cytokinesis in mycobacteria.

