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Title: Function of hpTlyA as 2'-O-methyltransferase of ribosomal RNA

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Abstract: Pore-forming toxins are the most common virulence factors of bacterial system to invade the host immune system. The gram negative, *Helicobacter pylori* is also one such bacterial system that harbours different classes of pore-forming toxins. hpTlyA is one of the recently identified pore-forming toxin of *Helicobacter pylori* toxins which has been found to be playing role in hemolytic as well as cytotoxic activity. This toxin is also suspected to do methyltransferase activity. In our lab we try to address this functionality of hpTlyA and observed that mutation at K-D-K-E tetrad of this toxin can perturb the methyltransferase activity which can be monitored in the presence of capreomycin. Recombinant *E. coli* cells expressing all different constructs of hpTlyA show normal growth of cells in the presence of methylated ribosomal targeting drug, capreomycin, which is the opposite response of methylated ribosome containing cells, indicating that variants of hpTlyA unable to properly methylate the ribosomal RNA and lead to normal growth of the cell. Thus, we can say hpTlyA can have methyltransferase activity.

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