Snakes on a membrane? Exploring functions of the novel prototoxin ly6 protein family

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Summary: Commonly found in snake venoms, alpha-neurotoxins target the function of a variety of different ion channels found at the plasma membrane of the cell. Ly6 proteins are found across multiple organisms, including humans, with their presence resulting in no toxic effects. Most intriguingly, the predicted 3D structures of the ly6s are nearly indistinguishable from those of the alpha-neurotoxins—and yet, the function of these ly6 proteins remains largely unknown. If not to kill us as their toxic brethren do, then what is their role in the cell? This has been the primary research question that drives the work (using tools from structural biology, biochemistry, cell biology, and genetics) in my lab.

Some relevant references:
