

**EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]:** State the application's broad, long-term objectives and specific aims, making reference to the potential public benefits of the project relevant to California. Do not include proprietary or confidential information. This may be distributed before the funding decision has been finalized.

We plan to engineer a simple innocuous defective virus so it can easily produce large amounts of useful proteins from any source. Other viruses have been and continue to be used for such purposes for basic research as well as biotechnology applications. In most cases, elaborate recombinant DNA technology is required to engineer viruses for protein production purposes. The system we contemplate is simpler, less labor intensive, and more versatile. It should find many applications in the fields of functional genomics (determining the function of proteins) and drug discovery (designing small molecules to inhibit or enhance specific protein functions). Moreover, the project will provide very valuable training for the students who will be involved in this research and enhance their prospects of contributing to the vibrant biotech sector of the California economy