

EXECUTIVE SUMMARY [NON-CONFIDENTIAL, NON-TECHNICAL ABSTRACT FOR PUBLIC INFORMATION OR PROGRAM PROMOTION]: State in layman's terms 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.

Monoclonal antibodies have become important therapeutic agents for several diseases including cancer. For example, the anti-Her2 (Herceptin) antibody is currently used as a therapy for metastatic breast cancer. Although the FDA has approved several therapeutic monoclonal antibodies and others are in clinical trials, there is still a lack of effective treatments for many cancers that can be addressed by the development of additional antibodies. We propose to characterize antigens recognized by antibodies that have been shown to preferentially bind to cancer vs. normal cells. Knowledge of the structure of the antigens will define the nature of the monoclonal antibody targets that can be used for cancer diagnosis, tumor imaging and/or therapy. The development of effective diagnostic, imaging tools, and therapies for cancer and other diseases will reduce patient suffering and death, will reduce medical costs to the public and California, and provide an economic benefit to California business. Students from San Francisco State University will benefit from participation in the proposed studies by learning about antibodies and their targets, the use of antibodies for cancer diagnosis, tumor imaging and/or therapy, and how to apply sophisticated technology for the identification of antigens. This will prepare them for entry into biotechnology jobs, or Ph.D. programs.