

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.

Flow cytometry is a technique by which single cells, bacterial and mammalian, can be analyzed based on their properties. This technique can allow someone to analyze the way cells divide, how they die, and what genes they use, either for proteins that are put on the outside of the cell or for ones that stay inside. The way the instrument works is to tag the cells with a colored marker that is fluorescent. Current technology in the instruments used for flow cytometry, called fluorescent-activated cell sorters or FACS, allows up to 10 colors to be analyzed at one time. This allows multiple properties in a single cell to be measured at once. An example where the FACS has become very important is in the diagnosis of cancer. This technique can tell doctors exactly what kind of cancer a person has. Flow cytometry is also very important to the biotechnology industry and students trained in this technology are highly sought after by local companies. Unfortunately, SDSU has no flow cytometry facility in which to train students. While many students and faculty use this instrument in their research, analysis is done at outside facilities. Now, The Scripps Research Institute wants to donate to SDSU a flow cytometer. If this instrument can be set up at SDSU, it will provide the students in biology, both graduate and undergraduate, and other investigators and students on campus, the opportunity to learn first-hand how to run this instrument and to use this technology. This will be of great benefit to the students as they become more competitive in today's market and help area industries which have difficulty identifying employees with experience in this area.