

**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.

This study will investigate the effect of probiotic bacteria, such as, *Lactobacillus* and *Bifidobacterium*, on intestinal microflora during and after antibiotic therapy. Probiotic bacteria and antibiotics will be administered to subjects at the Washington University Medical School and fecal samples will be sent to Cal Poly's Environmental Biotechnology Institute for analysis of bacterial community structure. Probiotic bacteria are hypothesized to create a stable bacterial community in the gut that will resist disturbance by antibiotic consumption. The biotechnology methods used at Cal Poly will determine the stability of the intestinal community structure. Should the hypothesis prove correct, this study may promote the use of probiotic bacteria as a stabilizing adjunct to antibiotic therapy and could result in co-prescription of probiotics and antibiotics.