

# Rapid Detection of Human Fecal Contamination Using sIgA as an Indicator

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## PURPOSE OF STUDY

This project will determine the feasibility of using human secretory (sIgA) as an indicator of human fecal contamination in water sources. Human sIgA assay can be used to identify water contaminated with human fecal matter. It is a reliable indicator because it does not show cross reactivity with cow, horse, chicken, sheep, or pig sIgA. This study will validate an ultrafiltration process that can concentrate sIgA from 10L of surface water.

## STUDY UNDERWAY

- Spiking studies, along with replicate experiments, will be done in 10L samples to determine recovery efficiencies.
- The findings will be added to a database that identifies indigenous sIgA in raw sewage and Rio Grande water samples.

## BENEFITS

- Using sIgA as an indicator for human fecal contamination is rapid, cost effective, and technically simple.



Jessica Hamel is working on a B.S. degree in microbiology.



Top right: ELISA plate on reader  
Top left: Wash system for ELISA  
Bottom: Filtration of 10L sample in 4 ft. hood



Left: Mesilla Rio Grande test site

