Wyoming Wilds Chemistry: Chromatographic Insights into Native Wyoming Plant **Extracts** Tatiana Farrington, Koiki Hasegawa, Cole Young Faculty Mentors: Eric Atkinson, Allan Childs Chemistry, Biology Northwest College Poster Presentation Powell, WY

Wyoming INBRE

Thin layer chromatography is a versatile analytical technique widely used to separate and identify compounds in complex mixtures. Artemisia and conifer species including junipers (Juniperus spp.) have been shown to have effective antimicrobial activity. In this study Artemisia and Juniperus extracts went through thin layer chromatography, elution and bioassay to study their antimicrobial activity against common bacterial pathogens: *Pseudomonas aeruginosa*, Staphylococcus aureus, and Escherichia coli. Thin layer chromatography plates used both 70% ethanol and acetone as elution solvents. When looking under UV light it was seen that the elution with 70% ethanol, the extract migrated to the top of the plate, meanwhile the elution with acetone worked as a better separator for the extracts. The separated compounds were scraped off the thin layer chromatography plates and transferred to agar plates inoculated with bacteria to assess their antimicrobial activity.