

**Isolation of shogaol from Organic and Processed Ginger for Cancer Related Drug Discovery Research** *Hunter Bouldin and Young B. Kim, Ph. D. Department of Applied Sciences & Math, School of STEM, Bluefield State College, Bluefield, WV*

Natural products define as a chemical compound or substance from plants, fungi, animals, and microorganisms. Within drug discovery research, more than 60% of drugs in industrialized nations are derived from natural products. Among many, capsaicin is one of natural product interest of ours. Many literatures suggested it with anticancer effects and this study is limited by hydrolysis reaction which makes it inactive molecule. However, structurally similar natural product known as shogaol lacks of that amide bond which limits its reactivity toward hydrolysis reaction. Knowing that, we will demonstrate product analysis of shogaol between organic and processed ginger in this meeting and we will also explore various chemical solvents to illustrate optimal condition for isolation of this bio-active natural product. In this poster, we will show our research hypothesis, research outline, and research data. We are hypothesizing that organic ginger will have greater amount of shogaol than processed ginger due to environmental factors and general research outline of this project highlights below:

1) drying your samples, 2) extraction, 3) TLC analysis, 4) silica gel-column purification, and 5) experimental analysis. We will also show both current stage and future direction of this project to achieve meaningful result to accept/not accept our hypothesis. Additionally, this isolated bio-active natural products will be used in future cancer related research in our BSC Drug Discovery Lab.