

JAMES STANDISH & JOSEPH HORZEMPA. Department of Biological Sciences, West Liberty University, West Liberty, WV USA. Ethanolic extract from Rosinweed (*Silphium integrifolium*) diminishes the viability of leukemia cells.

Many cardiovascular, immunosuppressive, anticancer, and antimicrobial drugs have originated from plant-derived natural products. Leukemia, a cancer characterized by the uncontrolled proliferation of abnormal white blood cells, remains a significant global health concern and highlights the need for the discovery of new therapeutic agents. In collaboration with the National Center for Natural Products Research (NCNPR), we are investigating plant extracts from members of the Asteraceae family, a diverse group of plants known to contain bioactive phytochemicals such as sesquiterpene lactones that have demonstrated anti-cancer activity. Previous screening efforts at West Liberty University identified several extracts from plants within the Asteraceae family that exhibited cytotoxic activity against THP-1 leukemia cells. One such extract identified in this screen was from the Asteracea plant, Rosinweed (*Silphium integrifolium*). The objective of this work is to extend these findings and further evaluate the anti-cancer potential of Rosinweed extracts and determine whether compounds present within this plant inhibit leukemia cell viability. To do so, Rosinweed plant tissue was macerated in ethanol, stirred to facilitate compound extraction, filtered, and the filtrate was rotary evaporated to remove excess solvent and concentrate the extract. Subsequently, the biological activity of this extract was evaluated using leukemia cell viability assays. Future directions include purifying the bioactive compound within the Rosinweed extract and evaluating this for anti-cancer activity in an animal model of leukemia. [This work was supported by the National Institutes of Health, National Heart Lung and Blood Institute (1R15HL147135) and an Institutional Development Award (IDeA) from the National Institute of General Medical Sciences (P20GM103434) which funds the WV-INBRE program].