Identification of a Novel Anticancer Pathway in a Traditional Hawaiian Herb

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Neuroblastoma has remained as the most severe cancer amongst young children (0-1 y/o). The current treatments for this disease include chemotherapy and radiation therapy, both of which have severely detrimental side effects. The goal of this project is to identify an effective alternative treatment for neuroblastoma from natural products, and to elucidate underlying anticancer mechanisms for future drug designs. Here, Zingiber zerumbet, a traditional Hawaiian herb, emerged as the most promising candidate. The results further demonstrated that the herb has comparable anticancer effects to doxorubicin, a conventional chemotherapy drug, but with significantly less side effects. More importantly, a novel anticancer pathway mediated by antioxidant activity was identified. Therefore, this research provides important information regarding future anticancer drug designs from a safer alternative natural source.

Awards Won: