

O-20: EVALUATION OF MARINE NATURAL PRODUCTS AS PROTEIN KINASE INHIBITORS

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Recent studies on signal transduction pathways have indicated various promising molecular targets for cancer treatment, and small molecules from marine sources may provide useful pharmacological agents for these targets. Cell growth, differentiation and death are regulated in part by mitogen-activated protein kinase (MAPK) pathways. The activation of MAPK and upstream signaling components are markers of advanced, endocrine therapy resistant breast cancer. As part of our effort to identify protein kinase inhibitors (PK) from marine sources, a hyphae formation inhibition (HFI) assay in *Streptomyces* 85E was used in our primary screening. The two known molecules ilimaquinone **1** (*Hippospongia metachromia*) and dolabellane diterpenoid **2** (*Eunicea calyculata*) exhibited a 13 mm bald phenotype (2 microgram/20microL) and a 12 mm (20 microgram/20microL), respectively, in the HFI assay. The isolation and further evaluation [cell proliferation studies and MAPK inhibition assay in the MCF-7 human breast cancer cell line] of these compounds will be discussed.

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D. John Faulkner Travel Award Winner

