BH3I-1 Derivatives Inhibit The Filamentous Growth of The Cea10 Strain of *Aspergillus Fumigatus*

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Recent and exciting advances in medical therapies for cancer and organ failures have greatly extended the life span of afflicted patients. However, these therapies often place the patient at risk for potentially lethal fungal infections. As the number of immunocompromised patients continues to rise, there has been an increase in associated opportunistic fungal infections. Treatment options for invasive mycoses caused by *Candida albicans* and *Aspergillus fumigatus* are surprisingly limited. *A. fumigatus* is the most common *Aspergillus* species associated with invasive pulmonary aspergillosis, accounting for over 60% of cases. *Aspergillus* grows as a filamentous mold with true hyphae originating from the germination of asexual conidia. *A. fumigatus* is not a dimorphic fungi as is the case with *C. albicans*, however, as both grow in hyphal form it seems possible that small molecules that inhibit the transition of *C. albicans* budded cells to hyphal growth (often referred to as the germination of blastoconidia) may also inhibit the germination of *Aspergillus* conidia. We tested BH3I-1 and derivatives against *A. fumigatus* strain CEA10 in YPD media. BH3I-1 and five of the derivatives inhibited at a 200μM concentration based on general observation via microscopy as well as eleven showing promising inhibition at possible different concentrations. Out of these inhibiting molecules, seven also shown inhibition within the prior *C. albicans* assay. We are currently employing a micro-plate reader to obtain quantitative levels of inhibition with increasing concentrations of molecule. Molecule 54 at the 300μM concentration showed similar inhibition to that of BH3I-1 at the same concentration.