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# ANTIFUNGAL AND ANTITUMORAL ACTIVITY OF EXTRACTS AND FRACTIONS FROM AN ENDOPHYTIC FUNGUS ISOLATED FROM THE MARINE RED ALGA *Asparagopsis taxiformis*

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**Abstract:** Natural Products from fungi have been proven a rich source of bioactive secondary metabolites and drugs including those from symbiotic fungi of marine organisms [1,2]. Previous investigation on the marine red alga *A. taxiformis* led to the isolation of seven fungal strains (AT01-AT07) [3]. AT01 was submitted to small scale culture and its crude EtOAc extract presented promising biological activities (antifungal and antitumoral). Such results encouraged us to investigate its chemical and biological profile in the search for novel and/or bioactive compounds from this fungal strain. The EtOAc extract was fractionated by Sephadex LH-20 column chromatography eluted with MeOH, and afforded six fractions (G1-G6), which were subsequently evaluated in antifungal (against *Cladosporium cladosporioides* and *C. sphaerospermum*), anticholinesterase and cytotoxicity assays. Strong antifungal activity was shown by the crude extract and fraction G4, whereas fractions G2, G3, G5 and G6 showed moderate to low activity and fraction G1 was inactive. Anticholinesterase activity was not observed for any of the tested samples. Tumor cell lines HCT-116 and MCF-7 were used in the cytotoxicity evaluation. Best results were obtained for the crude EtOAc and fractions G4, G5 and G6 against HCT-116 cell line with 75.7%, 97.3%, 104.8% and 99.4% inhibition at 50 $\mu g.mL^{-1}$, respectively, whereas tumor cell line MCF-7 was significantly inhibited only by fraction G5 (84.5%). Such results evidence selective inhibition of HCT-116 cell line by fractions G4 and G6, which might indicate the presence of potential antitumor compounds and corroborate the endophytic fungi from marine algae as a promising source of bioactive compounds.

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