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# CYTOTOXIC ACTIVITY OF THE METHANOLIC EXTRACT AND FRACTIONS FROM *DIDEMNUM CINERACEUM* ASCIDIAN

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**Abstract:** *Didemnum cineraceum* belongs to Didemnidae family that includes 578 species and is the most chemically productive ascidian family with 375 known compounds[1]. The *Didemnum* genus has attracted the attention of researchers for interesting metabolites as alkaloids, lipids, peptides and macrolides[2]. *D. cineraceum* was collected in Ilhabela– SP litoral. The methanolic crude extract was obtained and submitted to the cyclic loading protocol using HP-20 resin. The extract was passed through the column resulting six fractions: A-100% $H_2O$, B-20% $Me_2CO$, C-40% $Me_2CO$, D-60% $Me_2CO$, E-80% $Me_2CO$ and F-100% $Me_2CO$. The fractions were analyzed by HPLC-DAD, TLC and $^1H$ NMR. The methanolic extract and the obtained fractions were also evaluated against normal human lung fibroblasts (GM07492A). The D-60% $Me_2CO$ fraction (m= 110.2 mg) presented $IC_{50}$ 140.9 µg/mL in the cytotoxic activity and was selected for chemical study. The D-60% $Me_2CO$ fraction was cyclic loading again with HP-20ss resin using MeOH and $H_2O$ as mobile phase. Ten fractions were obtained. The fractions G-60% MeOH (m= 4.6 mg) and H-70% MeOH (m= 10.0 mg) were selected to $^1H$ and $^{13}C$ NMR experiments and MS analysis. The $^1H$ and $^{13}C$ NMR of the G-60% MeOH and H-70% MeOH fractions were similar. Regarding the mass spectrum of G-60% MeOH and H-70% MeOH fractions it was possible to note the presence of two main compounds with [M-H] 513.3159 and [M-H] 527.3317, respectively. The resonance data together with the HR-ESI/MS data suggest the presence of polyketides in these fractions. The Biselide A ($C_{25}H_{33}ClO_{10}$), $[M+Na]^+$ 551.1660 is a representative compound of this chemical class that has been previously isolated from *Didemnum* sp. However further studies are underway in order to obtain pure substances and accomplish the structural elucidation.

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