Antiprotozoal, antimycobacterial and cytotoxic potential of some british green algae

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In the continuation of our search for natural sources for antiprotozoal and antitubercular molecules, we have screened the crude extracts of four green marine algae (Cladophora rupestris, Codium fragile ssp. tomentosoides, Ulva intestinalis and Ulva lactuca) collected from the Dorset area of England. Trypanosoma brucei rhodesiense, Trypanosoma cruzi, Leishmania donovani and Mycobacterium tuberculosis were used as test organisms in the in vitro assays. The selective toxicity of the extracts was also determined toward mammalian skeletal myoblast (L6) cells. The crude seaweed extracts had no activity against M. tuberculosis, but showed antiprotozoal activity against at least two protozoan species. All algal extracts were active against T. brucei rhodesiense, with C. rupestris being the most potent one (IC(50) value 3.7 mug/ml), whilst only C. rupestris and U. lactuca had moderate trypanocidal activity against T. cruzi (IC(50) values 80.8 and 34.9 mug/ml). Again, all four extracts showed leishmanicidal activity with IC(50) values ranging between 12.0 and 20.2 mug/ml. None of the extracts showed cytotoxicity toward L6 cells, indicating that their antiprotozoal activity is specific. This is the first study reporting antiprotozoal and antimycobacterial activity of British marine algae. Copyright (c) 2009 John Wiley & Sons, Ltd
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