Antiprotozoal, antimycobacterial and cytotoxic potential of twenty-three British and Irish red algae

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)

ID 524408
Author(s) Allmendinger, Andrea; Spavieri, Jasmine; Kaiser, Marcel; Casey, Rosalyn; Hingley-Wilson, Suzie; Lalvani, Ajit; Guiry, Michael; Blunden, Gerald; Tasdemir, Deniz
Author(s) at UniBasel Kaiser, Marcel ;
Year 2010
Title Antiprotozoal, antimycobacterial and cytotoxic potential of twenty-three British and Irish red algae
Journal Phytotherapy research : an international journal devoted to pharmacological and toxocological evaluation of natural product derivatives
Volume 24
Number 7
Pages / **Article-Number** 1099-103
Keywords Marine red algae, Trypanosoma, Leishmania, Mycobacterium, cytotoxicity
As part of our continuing research on seaweeds, we have screened the crude extracts of 23 red marine algae collected from England and Ireland. The clinically important blood-stage life forms of Trypanosoma brucei rhodesiense, T. cruzi, Leishmania donovani and Mycobacterium tuberculosis were used as test organisms in the in vitro assays. The selectivity of the extracts was determined by using mammalian skeletal myoblast (L6) cells. All algal extracts showed activity against T. brucei rhodesiense, with Corallina officinalis and Ceramium virgatum being the most potent (IC(50) values 4.8 and 5.4 mug/ml), whilst none of the algal extracts inhibited the growth of T. cruzi. Except for Porphyra leucosticta, extracts from all seaweeds also showed leishmanicidal activity with IC(50) values ranging from 16.5 to 85.6 mug/ml. Only the crude extract of Calliblepharis jubata showed some weak activity against Mycobacterium tuberculosis (MIC value 256 mug/ml), while the others were inactive at this concentration. Corallina officinalis was the only seaweed that displayed some marginal cytotoxicity (IC(50) value 88.6 mug/ml), and all remaining extracts were non-toxic towards L6 cells at 90 mug/ml concentration. To our knowledge, this is the first study reporting antiprotozoal and antimycobacterial activity of British and Irish red algae.
Publisher John Wiley
ISSN/ISBN 1099-1573
edoc-URL http://edoc.unibas.ch/dok/A5842820
Full Text on edoc No;
Digital Object Identifier DOI 10.1002/ptr.3094
PubMed ID http://www.ncbi.nlm.nih.gov/pubmed/20077438
ISI-Number WOS:000280142900024
Document type (ISI) Article