

Publication

Antimycobacterial, antiprotozoal and cytotoxic potential of twenty-one brown algae (Phaeophyceae) from British and Irish waters

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 524403**Author(s)** Spavieri, Jasmine; Allmendinger, Andrea; Kaiser, Marcel; Casey, Rosalyn; Hingley-Wilson, Suzie; Lalvani, Ajit; Guiry, Michael D; Blunden, Gerald; Tasdemir, Deniz**Author(s) at UniBasel** [Kaiser, Marcel](#) ;**Year** 2010**Title** Antimycobacterial, antiprotozoal and cytotoxic potential of twenty-one brown algae (Phaeophyceae) from British and Irish waters**Journal** Phytotherapy research : an international journal devoted to pharmacological and toxicological evaluation of natural product derivatives**Volume** 24**Number** 11**Pages / Article-Number** 1724-9**Keywords** Brown algae, Phaeophyceae, Trypanosoma, Leishmania, Mycobacterium, cytotoxicity

In the continuation of our research on seaweeds, crude extracts of 21 brown algae collected from the south coast of England and the west coast of Ireland were screened for in vitro trypanocidal, leishmanicidal and antimycobacterial activities. Mammalian stages of a small set of parasitic protozoa; i.e. Trypanosoma brucei rhodesiense, T. cruzi and Leishmania donovani, and the tubercle bacillus Mycobacterium tuberculosis were used as test organisms. The extracts were also evaluated for selectivity by testing on a mammalian cell line (L6 cells). Only four extracts were moderately active against T. cruzi, whereas all algal extracts showed significant activity against T. brucei rhodesiense, with Halidrys siliquosa and Bifurcaria bifurcata (Sargassaceae) being the most potent (IC50 values 1.2 and 1.9 mug/mL). All algal extracts also displayed leishmanicidal activity, with H. siliquosa and B. bifurcata again being the most active (IC50s 6.4 and 8.6 mug/mL). When tested against M. tuberculosis, only the B. bifurcata extract was found to have some antitubercular potential (MIC value 64.0 mug/mL). Only three seaweed extracts, i.e. H. siliquosa, B. bifurcata and Cystoseira tamariscifolia showed some cytotoxicity. To our knowledge, this is the first study on the antiprotozoal and antimycobacterial activity of brown algae from British and Irish waters

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