

Cytotoxic, mutagenic and antimutagenic screening of *Arenosclera brasiliensis* acetone and ethanol extracts

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ABSTRACT. The marine environment is a rich source of biologically active compounds with pharmacological properties. Marine organisms often produce secondary metabolites with structural features different from those produced by terrestrial ones, and the Phylum Porifera seems to be one of the most productive in this sense. This study was undertaken to provide data on mutagenic and antimutagenic activities from an acetone (Areac) and an ethanol (Areet) extract obtained from *Arenosclera brasiliensis*, an endemic Brazilian sponge. A qualitative *Salmonella* reverse mutation test was performed with the TA97, TA98, TA100, and TA102 strains by incubating cells

with Areac and Areet in the presence and absence of a known mutagen. A cytotoxic evaluation of the extracts was also performed. *A. brasiliensis* did not display any mutagenic activity, but Areac showed significant toxicity against test strains. In the antimutagenic assay, a reduction in the number of *his*⁺ revertants was observed for the TA97, TA100 and TA102 strains treated with Areac when compared to the positive controls. Areet treatment showed protective activity against DNA lesions only for the TA100. These results are in agreement with those obtained previously with other *A. brasiliensis* extracts, suggesting an antimutagenic activity.

Key words: *Arenosclera brasiliensis*; Antimutagenicity; *Salmonella* reverse mutation test; Marine natural products