# Biological Activities of the Fucanas Extracted from Brown Seaweeds *Dictyota mertensii*

Silva, C.H. F.[1]; Fidelis, G.P. [1]; Rocha, H.A.O. [1]; Costa, L. S. [1]

[1]Dep de Bioquímica, CB-UFRN, Natal, RN, Brazil.

**Introduction.**Sulfated fucans comprise families of polydisperse natural polysaccharides based on sulfated L-fucose. They have received in the last years a considerable attention from researchers especially for their diversity of pharmacological properties among them anticoagulant activity, antioxidant, anti-inflammatory and anti-tumor. Moreover, each seaweeds synthesizes one or more SP that may present peculiar characteristics which justifies studies with species of our marine coast. **Objectives:** The objective of this study was to extract and characterize fucans extracted from brown seaweed *Dictyota mertensii* as well as their potential anticoagulant and antioxidant. **Material and Methods:** After the differential precipitation process with acetone seven fractions were obtained: F0.3, F0.5, F0.7, F1.0, F1.5 and F2.5. These biomolecules were subjected to physico-chemical characterization by agarose gel electrophoresis, dosage of sugar, protein, phenolic compounds, and sulfate, as well as determination of their monosaccharide compositions. The influence of PS extracted in oxidation-reduction reactions was analyzed by ferric chelation tests, total antioxidant capacity (TAC) and reducing power; The anticoagulant potential was evaluated by activated partial thromboplastin time (aPTT) and prothrombin time (PT). **Results and Discussion:** the physical-chemical characterization showed that the PS of *D. mertensii* are heterofucans composed of glucose, manose, fucose, glicose and xilose.The fractions showed an excellent antioxidante activity with high ability to chelate iron (F1.0, F0,5, F0,7) and signifactivos results for reducing power and CAT assays (F0.3, especially). None of the samples showed activity for the PT test. Furthermore, with the exception of F1.5 and F2.1, all showed potential in the aPTT test, especially F1.0 and F0.3 that prolonged the clotting time with the mass of 10µg and 20µg, respectively. **Conclusion:** These results demonstrate that this fucans of *D. mertensii* are a new anticoagulant and antioxidant compounds with potential pharmacological applications. Furthermore, our data indicate that further studies are needed to evaluate the action mechanism of these molecules.

Key-words: Bioprospecting. Antioxidant. Anticoagulant.

Patrocínio: CNPq and CAPES