

## Effect of Sulfated polysaccharides from Seaweed *Caulerpa cupressoides* on Vero cells damaged made by Calcium Oxalate Crystals

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**INTRODUCTION.** Calcium oxalate crystals (CaOx) is the main cause of urolithiasis, thus there is a search for novel compounds that inhibit the CaOx formation, including antioxidant compounds, like as sulfated polysaccharides (SP) from seaweeds. **OBJECTIVE:** Our goal was evaluated the effect of SP from seaweed *Caulerpa cupressoides* (CCB) on CaOx *in vitro* crystallization and in renal cells damage caused by CaOx. **MATERIAL E METODOS:** CCB were obtained after proteolysis and propanone fractionation. The CaOx morphology was observed at light microscope. The antioxidant activity was verified by hydrogen peroxide (HP) scavenger assay. In order to verify the CCB cytoprotective action, the renal VERO cells were exposed to CCB for 24h and after they were incubated with calcium oxalate and HP. Thus, the cell viability was measured by MTT assay. **DISCUSSÃO E RESULTADOS:** We obtained five CCB, CCB-EB, CCB-F0.3, CCB-F0.5, CCB-F1.0, CCB-F2.0. All CCB scavenge HP at least 30%, the most potent was CCB-EB (85,21%). In the presence of CCB are formed mainly dehydrated CaOx which is less aggressive. We also observed that the CaOx surface become more negative due the PS, which decrease the crystal interaction with renal cells. All CCB showed cytoprotective action, the most potent was CCB-F2.0 that inhibits cell death in about 75%. **CONCLUSÃO:** The data obtained with CCB-EB and CCB-F2.0 lead us to propose that these sulfated polysaccharides are promising agents for use in the treatment of urolithiasis.

Palavra chave: Urolithiasis, calcium oxalate crystals morphology, renal cytoprotection  
Patrocínio: FAPERN, MCTI, CNPq and CAPES