

Compartmental Distribution of Sulfated Polysaccharides in the Body of Adult Individuals of Three Species of Earthworms (Annelida, Oligochaeta)

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In sexual mature earthworms the clitellum is responsible for the reproductive processes. Several studies have shown by histochemical methods the presence of sulfated mucosubstances in mucous secretions and in the clitellar and nonclitellar epithelium of earthworms; however, little is known regarding its biochemical composition. Therefore, the aim of this study was to characterize the composition of sulfated polysaccharides (SP) and its compartmental distribution in three species of earthworms, *Eisenia andrei*, *Eudrilus eugeniae* and *Amyntas gracilis*. Adult were dissected into three portions, anterior and posterior ends and clitellum. Purified SP obtained from each of the three body portions from adult earthworms were analyzed by anion exchange chromatography on Mono QFPLC column and agarose gel electrophoresis. Sulfated glycosaminoglycans (S-GAGs) composed of heparan sulfate (HS) plus chondroitin sulfate (CS) and heparin eluted with 1,0 M and 1,5M NaCl, respectively, while an unknown highly SP eluted with 3,0 M NaCl. The relative proportion of S-GAGs represented 90-95% of total SP in both the anterior end and in the clitellum, while in the posterior end it accounted for 60-70% of the total. In order to characterize specifically the SP composition in the integument, earthworms were dissected and had their viscera removed as much as it was possible. HS and CS were by far the predominant SP in the integument, while in viscera both S-GAGs and the unknown highly SP were found in proportions similar to those identified in the three body portions.