

PARTIAL CHARACTERIZATION OF GIANT EXTRACELLULAR HEMOGLOBIN OF *GLOSSOSCOLEX PAULISTUS*: A MALDI-TOF-MS STUDY.

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Giant extracellular hemoglobin of *Glossoscolex paulistus* (HbGp) is constituted by subunits containing heme groups (monomer **d** and trimer **abc**) and non-heme structures, linkers (**L**), with molecular masses similar to *Lumbricus terrestris* hemoglobin (HbLt). Whole protein has a minimum total molecular mass of 3100 kDa. The similarity of HbGp and HbLt is based on the knowledge of molecular masses obtained for the protein subunits in electrophoresis and ultracentrifugation data. MALDI-TOF-MS analysis was performed to obtain directly information on the molecular masses of the different subunits from HbGp in the oxy- form. The monomer **d** is found to exist in, at least, two major forms of identical proportions with masses of $16,355\pm 25$ and $16,428\pm 24$ Da, respectively. Upon disulfide bonds reduction the peak associated to the trimer is absent in the mass spectrum, and new peaks assigned tentatively to the monomers **a**, **b** and **c** on the basis of comparison with HbLt are observed. Their molecular masses were $18,258\pm 30$ Da, $16,492\pm 24$ Da and $17,363\pm 17$ Da, respectively. Two Linker chains for HbGp were also observed at $25,817\pm 50$ and $26,761\pm 16$ Da. Finally, trimers (**abc**) were observed at 51-52 kDa. This partial characterization, performed for the first time, is an important step in the characterization of subunits of this giant extracellular hemoglobin, and emphasizes the similarity between HbGp and HbLt.

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