

A method for separation of heparin species from biological samples by ethanol precipitation of compounds solubilized in guanidine hydrochloride

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SUMMARY

In this paper we describe a procedure to determine glycosaminoglycan and oligosaccharide composition of biological samples such as cell cultures or tissue explants. We demonstrate that heparin species of different molecular mass can be easily fractionated by sequential ethanol precipitation in 4.0 M guanidine hydrochloride. We studied by gradient polyacrylamide gel electrophoresis fractionation of standard heparin and heparin-derived oligosaccharides by anion-exchange chromatography on DEAE-Sephacel resin eluted by increasing concentration of guanidine hydrochloride. The use of guanidine salts followed by sequential precipitation by increasing ethanol concentration allowed recovery of heparin and heparin-derived oligosaccharides.