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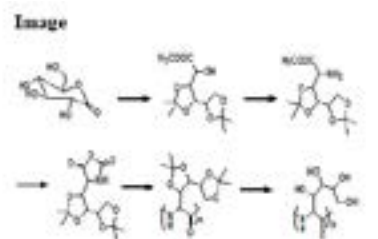
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## POLY(GLYCO-PEPTIDES) DERIVED FROM D-GLUCONOLACTONE

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**D**evelopments in drug delivery, tissue engineering, gene therapy and medical devices require biopolymers with tailored properties. Polyester prepared from the  $\alpha$ -hydroxy acids, lactic and glycolic acids are the most common polymers in clinical use. These polymers are hydrophobic and have been used for absorbable sutures, orthopaedic fixation and biodegradable carrier. Biodegradable hydrophilic polymers and hydrogels are usually prepared from crosslinking of natural polysaccharides and proteins. For the past decade, we have been involved in the synthesis of polyesters derived from amino acids that have been converted into their corresponding  $\alpha$ -hydroxyl acids. These polymers were evaluated as scaffolds for cell seeding and proliferation. Here we report the synthesis of polypeptides with saccharide side chains starting from D-gluconolactone. The resulting new nonionic water-soluble polymers, called poly(glucosaminic acid), possessing the properties of peptides and saccharides, have potential uses as scaffolds for tissue engineering and drug carriers.



**Figure 1:** Synthesis of poly(glucosaminic acid) starting from gluconolactone.

### Biography

Ester Abteu is a PhD candidate at The Hebrew University of Jerusalem, Israel. She studied Chemistry and Biology at the same university (2012). Later she joined direct Ph.D. program in Medicinal Chemistry at the Institute of Drug Research at the same university. Currently she is in the final year of her PhD study which focuses on synthesis of new family of polymers named "Poly(glyco-peptides) and Poly(glycoesters) derived from mono-saccharides". Her research interest includes: polymer chemistry, polysaccharide and drug delivery.

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