Biopolymer Fabricated Materials for Biomaterials

A method of creating a polymer brush comprised of the biopolymer, hyaluronan for use in polymer grafting on biomaterials

Georgia Tech inventors have developed a method of creating a polymer brush comprised of the biopolymer, hyaluronan for use in polymer grafting on biomaterials. This method relates to coatings for biomaterials that provide protective properties and also can act as a bioadhesive. The interfaces created by the technology are unique due to their tenability in thickness, potential for self-healing and regeneration, and their extreme biocompatibility.

Summary Bullets

- **Novelty** – first technology that enables the formation of biopolymer brushes at interfaces of any thickness
- **Incredibly biocompatible** – hyaluronan has many salient features such as being non-fouling, non-immunogenic, and viscoelastic that make it a common polymer used in biomedical applications
- **Potential for regenerative technology** – further applied in regenerative interface technology research

Solution Advantages

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Potential Commercial Applications

- Electrical devices, sensors, catheters and any device which may be used on humans
- Drug delivery and cancer cell targeting
- Tissue engineering
- Antimicrobial surfaces

Background and More Information

Interface control has been pivotal in a wide range of biomaterial applications. Of particular interest is the use of polymer brushes to control architectural features that can be manipulated to tune interfacial properties. However, the use of polymer brushes are seldom applied to biopolymers. Application of advanced interface control to

biopolymers can fully realize the biocompatibility advantage they offer.

Inventors

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IP Status

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Publications

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Images

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