



## TECHNOLOGY

# Novel Degradable Biomaterials

## OVERVIEW

Strategies for tissue engineering usually involve three components: a biocompatible scaffold, chemical signaling factors, and transplanted cells. The scaffold acts as a site for cell attachment and proliferation. Once the scaffold is implanted it will lead to regeneration of native tissue. The few synthetic degradable polymers studied previously as scaffolds for tissue engineering applications have critical drawbacks. To overcome these drawbacks, University of Maryland researchers have developed a novel class of biomaterials.

Previously developed degradable polymers are based upon an ester polymer backbone. These polymers degrade when water is added to the ester linkage of the polymer backbone. The disadvantage to these materials is that their degradation products are acidic. As the scaffold degrades, the local acidity of the native tissue increases, leading to an increased inflammatory response and further premature degradation of the scaffold.

The newly developed biomaterials overcome the problems with the acidity and premature degradation. The degradation of these novel biomaterials will not significantly affect the local acidity of the native tissues, thus making them ideal scaffolds for tissue engineering applications.

## CONTACT INFO

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Patent(s) pending

### LICENSE STATUS

Contact OTC for licensing information

### CATEGORIES

- Biomaterials

## EXTERNAL RESOURCES

- [US Patent 8,715,708](#)

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