

## Hydrogel For Engineered Immune Response

Tech ID: 30018 / UC Case 2016-788-0

### SUMMARY

UCLA researchers in the Department of Chemical and Biomolecular Engineering have developed a novel biomaterial that can be used as a therapeutic for cancer, wound healing and other diseases.

### BACKGROUND

Immunotherapy, the modulation of immune response to drive tissue-specific expression has tremendous potential as a therapeutic for malignant cancers and for wound healing. It can also be used for vaccination. However, such an approach requires an immune modulator that can cause a local, sustained immune response without side effects and is not prone to clearance.

### INNOVATION

UCLA researchers have developed a novel biomaterial with immune-modulatory properties. Their approach is based on a solid hydrogel with chemically cross-linked immune modulators. It is not prone to clearance and is stable for long time periods ensuring a sustained immune response. Their initial proof of concept experiments showed an eight-fold increase in expression of immune cells around the biomaterial.

### APPLICATIONS

- ▶ Immunotherapy for Malignant Tumors
- ▶ Wound healing
- ▶ Vaccinations

### ADVANTAGES

- ▶ Targeted delivery of immune response modulators for reduced side-effects
- ▶ Solid immune-modulator approach is less prone to clearance

### STATE OF DEVELOPMENT

Proof of concept experiments conducted in animal model systems.

### PATENT STATUS

Country	Type	Number	Dated	Case
Germany	Issued Patent	602017082417.8	06/05/2024	2016-788
European Patent Office	Issued Patent	3439697	06/05/2024	2016-788
Spain	Issued Patent	3439697	06/05/2024	2016-788
France	Issued Patent	3439697	06/05/2024	2016-788
United Kingdom	Issued Patent	3439697	06/05/2024	2016-788
Italy	Issued Patent	3439697	06/05/2024	2016-788
United States Of America	Issued Patent	10,849,988	12/01/2020	2016-788

### ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Multivalent Targeting Strategy for Drug Carriers](#)

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### INVENTORS

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### OTHER INFORMATION

#### KEYWORDS

Hydrogel, Immune response, Immune system, Immune modulation, Inflammation, Inflammatory response, Cancer, Wound healing

#### CATEGORIZED AS

- ▶ **Materials & Chemicals**
  - ▶ Biological
- ▶ **Medical**
  - ▶ Disease: Cancer
  - ▶ Therapeutics
  - ▶ Vaccines

#### RELATED CASES

2016-788-0

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