USC Stevens Center for Innovation

USC University of Southern California

# CpG anti-PD-L1 Immunoconjugate for Cancer Therapy

**USC Case #2018-159**

## Market Opportunity:

Immune checkpoint inhibitors (ICIs) have demonstrated unprecedented success in treating several types of cancers. The therapeutic effectiveness of ICIs, however, is limited to "hot" tumors which bear large neoantigen burden that can activate adaptive immunity through induction of T cell response. Improving the ability of ICIs to treat "cold" tumors with reduced neoantigen burden, therefore, will expand their therapeutic potential.

## USC Solution:

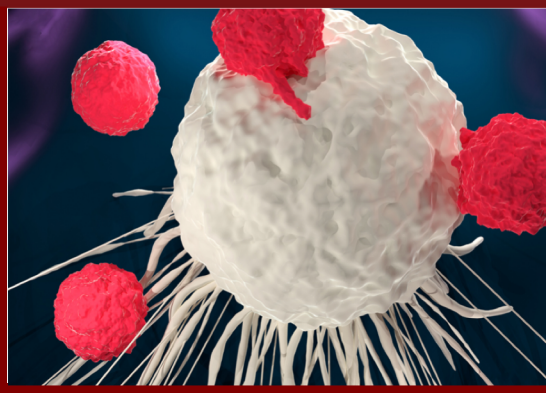
Researchers at USC have generated antibodies which enhance adaptive anti-tumor immune response by eliciting innate immunity. The antibodies are conjugated to CpG, a Toll-like receptor 9 agonist, which activates innate immune cells. Preclinical studies showed that CpG-conjugated antibodies delay tumor growth and improve survival. Chemical conjugation of CpG to checkpoint inhibitors may sensitize cold tumors to ICI treatment.

## Value Proposition

- Systemic delivery of CpG to solid tumors
- Induction of adaptive immune response against cold tumors
- Increased sensitivity of hot tumors to ICIs

## Keywords:

Checkpoint inhibitors, immunotherapy, CpG, innate immunity



## Applications

- Reduction of tumor growth using immune checkpoint inhibitors

## Stage of Development

- Tested *in vivo* in animal models
- Available for exclusive and non-exclusive license

## Intellectual Property

### Status:

Provisional patent filed

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