

Accepted Manuscript

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PII: S0142-9612(18)30241-2

DOI: [10.1016/j.biomaterials.2018.04.003](https://doi.org/10.1016/j.biomaterials.2018.04.003)

Reference: JBMT 18589

To appear in: *Biomaterials*

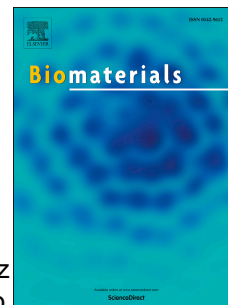
Received Date: 25 January 2018

Revised Date: 21 March 2018

Accepted Date: 1 April 2018

Please cite this article as: Bocanegra Gondan AI, Ruiz-de-Angulo A, Zabaleta A, Gómez Blanco N, Cobaleda-Siles BM, Garcia-Granda MaríJesú, Padro D, Llop J, Arnaiz B, Gato Marí, Escors D, Mareque-Rivas JC, Effective cancer immunotherapy in mice by polyIC-imiquimod complexes and engineered magnetic nanoparticles, *Biomaterials* (2018), doi: 10.1016/j.biomaterials.2018.04.003.

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Effective cancer immunotherapy in mice by polyIC-imiquimod complexes and engineered magnetic nanoparticles

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Keywords: magnetic nanoparticles, drug delivery, Toll-like receptor agonists, vaccines, multimodal imaging, immunotherapy, checkpoint inhibition

ABSTRACT: Encouraging results are emerging from systems that exploit Toll like receptor (TLR) signaling, nanotechnology, checkpoint inhibition and molecular imaging for cancer immunotherapy. A major remaining challenge is developing effective, durable and tumour-specific immune responses without systemic toxicity. Here, we report a simple and versatile system based on synergistic activation of immune responses and direct cancer cell killing by combined TLR ligation using polyIC as TLR3 and imiquimod (R837) as TLR7 agonist, in combination with the model antigen ovalbumin (OVA) and phospholipid micelles loaded with zinc-doped iron oxide magnetic nanoparticles (MNPs). The combination of TLR agonists triggered a strong innate immune response in the lymph nodes (LNs) without systemic release of

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