

### **POSTER PRESENTATION**



# Induction of systemic anti-melanoma immunity through intratumoral TLR-7/8 activation

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#### Purpose

Intratumoral immune activation can induce systemic immunity and anti-tumor activity. Imiquimod is a cream-formulated, TLR-7 agonist that is FDA-approved for the treatment of non-melanoma skin cancers, but has limited activity against melanoma. In the current study, we studied the anti-tumor activity and mechanism of action of a novel injectable TLR 7/8 dual agonist, 3M-052, which remains at the site of injection to avoid systemic distribution.

#### **Experimental design**

Mice bearing established B16 melanomas were treated intratumorally with 3M-052 or vehicle. The mechanistic contribution of individual cell types and molecules to the anti-tumor effect was determined using genetically engineered mice and antibody blockades. Immune cell infiltrates were analyzed by flow cytometry.

#### Results

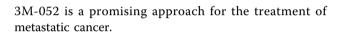
Intratumoral administration of 3M-052 generated systemic anti-tumor immunity and suppressed both injected and distant uninjected wild-type B16.F10 melanomas. Treated tumors showed increased level of CCL2 chemokines and CCL2 dependent infiltration of M1 phenotypeshifted macrophages which could kill tumor cells directly through production of nitric oxide. CD8<sup>+</sup> T cells, B cells, Type I IFN, IFN-g, and pDCs contributed to efficient tumor suppression whereas perforin, NK cells and CD4 T cells were not required.

#### Conclusion

Induction of effective innate and tumor specific adaptive immunity by intratumoral treatment of TLR7/8 agonist,

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