

Combination of IFN γ and TLR2/6 agonists for the treatment of melanoma

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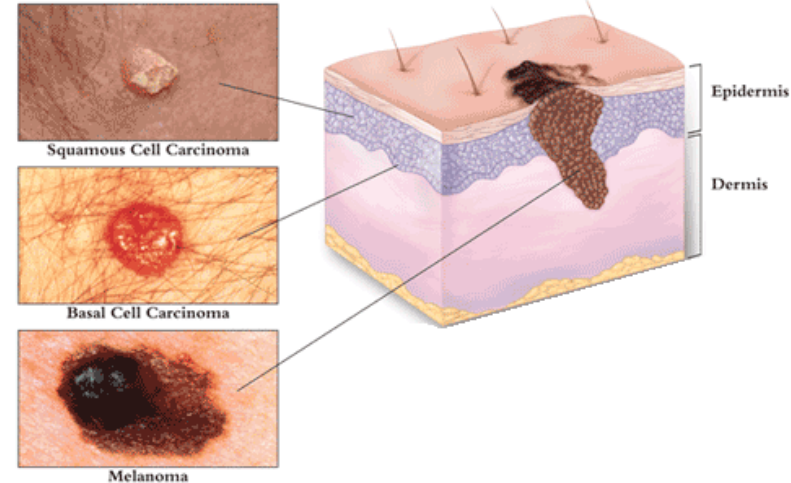


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Melanoma

- Melanoma is a malignant tumor originating in the melanin-forming cells
- The American Cancer Society estimates more than 91,000 new cases of melanoma in 2018
- \$900 million spent annually melanoma treatment
- Clinical Problem:
 - 5-year survival rate for metastasized melanoma is 18%
 - Treatment mainly consists of surgical resection and radiation; targeted therapies are used for later stage Immunotherapies such as checkpoint inhibitors available, but frequently have severe side effects

Types of Skin Cancer

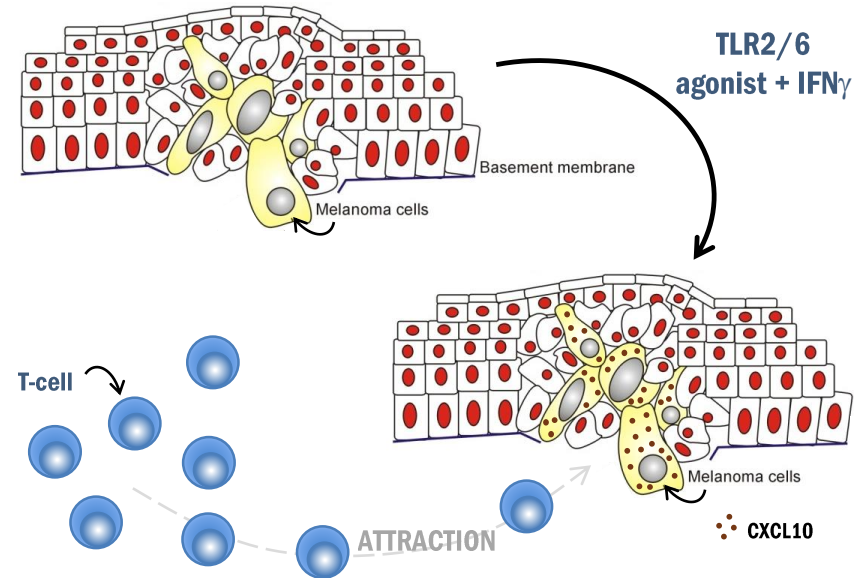


<http://aadpathology.com/mohs/>

Dual Treatment: TLR2/6 Agonist and IFN γ

Solution: Researchers at the University of Virginia have identified that use of a combinatorial treatment of melanoma cells with TLR2/6 agonist and IFN γ increases cellular production of the chemokine CXCL10, a T-cell attractant.

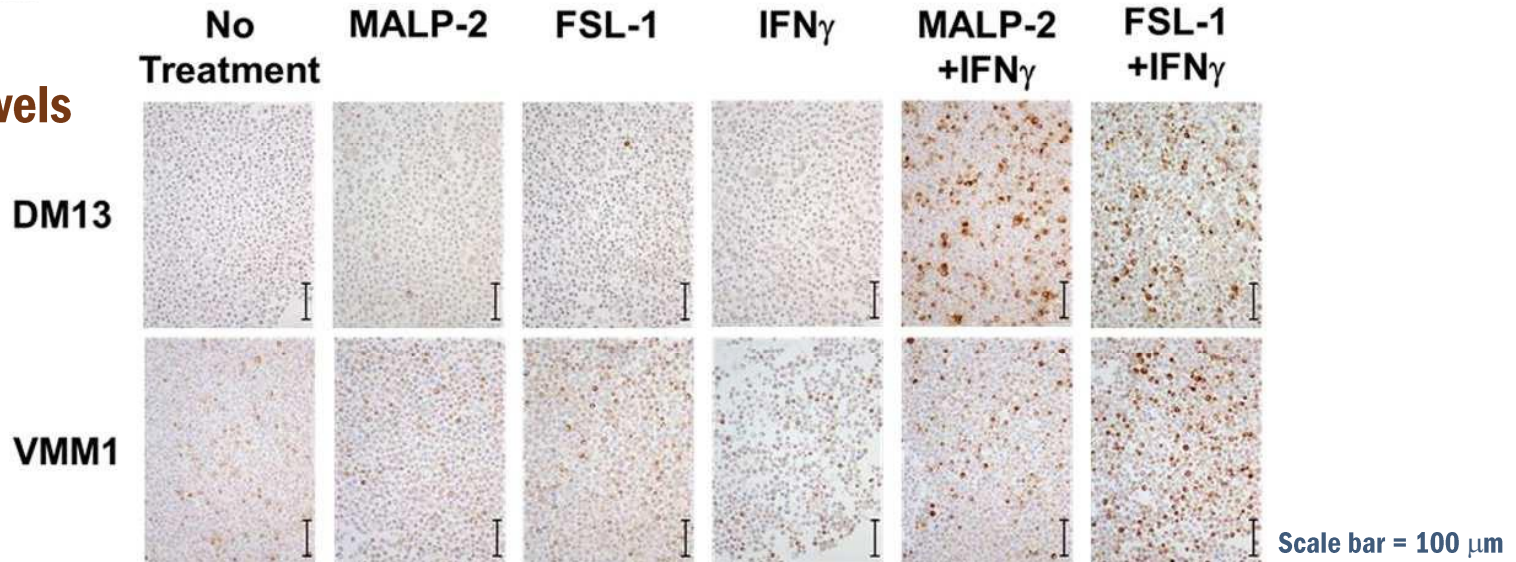
- TLR2/6 agonist and IFN γ synergize to induce melanoma cell production of CXCL10, which in turn promotes the migration of T-cells
- Treatment does not increase proliferation or inhibit apoptosis



Adapted from: <https://mts.intechopen.com/books/research-on-melanoma-a-glimpse-into-current-directions-and-future-trends>

CXCL10 Upregulation with Dual Treatment of TLR2/6 Agonist and IFN γ

CXCL10 levels



Melanoma cell lines increase production of CXCL10 after treatment with both a TLR2/6 agonist (MALP-2 or FSL-1) and IFN γ in comparison to either treatment alone.

Relevant Publications

- Int. J. Cancer. 2015 May 29;137:1386-96. **Mauldin I**, et. al.

Intellectual Property

- UVA Tech ID: SLINGLUFF-TLRAG
 - Title: Compositions and methods for treating melanoma
 - U.S. Patent Application 15/035,015 filed Nov. 7, 2014