

POSTER PRESENTATION

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# Core skin DC signatures control immune tolerance to skin cancer and limit anti-tumor immunity

Christopher Nirschl<sup>1</sup>, Yong Liu<sup>1</sup>, Kavita Sarin<sup>2</sup>, Mayte Suarez-Farinas<sup>3</sup>, David Chau<sup>1</sup>, Peter Sage<sup>4</sup>, Arlene Sharpe<sup>4</sup>, Niroshana Anandasabapathy<sup>1\*</sup>

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## Background

Dendritic cells (DC) are gatekeepers of immunity, critical to both an initiate immune response upon infection and promote tolerance to self-antigens.

## Methods

We have just established that DC subsets in the skin that constitutively migrate into LNs can individually and collectively temper an on-going immune response. Tissue DC originating in skin share a unique transcriptome signature geared towards immune dampening when compared to their lymphoid counterparts in both mouse and human.

## Results

Here we demonstrate expression of unique core skin DC transcripts are closely associated with increased clinical aggressiveness of BCC in humans and the stratify stage 4 melanoma outcomes. In mice, loss of signature genes in DC, which include but are not limited to PD-L1/PD-L2, lead to enhanced antigen-specific immunity, decreased tumor growth, and improved anti-tumor vaccine priming to melanoma skin cancer by distinguishable molecular control of T cell effector function and clonal proliferation.

## Conclusions

These data suggest core skin DC signatures regulate the immune-epithelial interface.

## Authors' details

<sup>1</sup>Brigham and Women's Hospital, Department of Dermatology, Harvard Medical School, Boston, MA, USA. <sup>2</sup>Stanford University, Stanford, CA, USA. <sup>3</sup>Mount Sinai school of Medicine, New York, NY, USA. <sup>4</sup>Harvard Medical School, Boston, MA, USA.

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<sup>1</sup>Brigham and Women's Hospital, Department of Dermatology, Harvard Medical School, Boston, MA, USA

Full list of author information is available at the end of the article



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