**042**

**Competition for TGFβ augments accumulation of antigen-specific CD8+ T cells in murine melanoma**

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We observed that competition for limiting amounts of active TGFβ allows antigens to be presented by the tumor and drives the accumulation of antigen-specific CD8+ T cells in the murine B16 melanoma model. This study demonstrates that competition for signaling ligands can modulate immune responses and suggests that strategies to increase the availability of signaling ligands could be beneficial in cancer immunotherapy.

**043**

**Loss of DLX3 tumor suppressive function is associated with poor prognosis in human SCC**

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Immunohistochemical analysis of formalin-fixed paraffin-embedded lesions of 121 cutaneous squamous cell carcinomas (cSCCs) revealed that high DLX3 expression was significantly associated with increased overall survival and decreased risk of local recurrence. The results suggest that DLX3 is a potent tumor suppressor in the development of SCC and may be a useful biomarker for prognosis.

**044**

**Nonmelanoma skin cancer in children and young adults with iatrogenic risk factors**

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We analyzed a cohort of 29 patients with nonmelanoma skin cancer (BCC) and squamous cell carcinoma (SCC) to identify iatrogenic risk factors associated with their development. We found that patients with a history of previous radiation therapy, chemotherapy, and/or immunosuppression were more likely to develop BCCs and SCCs than those with no history. These findings highlight the importance of considering iatrogenic factors in the management of skin cancer.

**045**

**Glucose-6-phosphate dehydrogenase is a promising predictor of immunotherapy response for Merkel cell carcinoma**

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Using a patient-derived xenograft (PDX) model and a humanized xenograft mouse model, we found that glucose-6-phosphate dehydrogenase (G6PD) expression was predictive of response to immunotherapy in Merkel cell carcinoma. Patients with high G6PD expression had increased survival and decreased progression compared to those with low G6PD expression. These findings suggest that G6PD expression could be a useful biomarker for predicting immunotherapy response in Merkel cell carcinoma.

**046**

**Knockdown of IGF2BP1 reduces the tumorigenicity of basal cell carcinoma cells in mice**

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We investigated the role of IGF2BP1 in the tumorigenicity of basal cell carcinoma (BCC) cells using a mouse model. We found that knockdown of IGF2BP1 in BCC cells reduced their tumorigenicity and prolonged skin latency, indicating a potential therapeutic target for BCC.

**047**

**Parallels between wound healing and cancer: An avenue to cancer therapeutics**

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1 Adult stem cells (SCs) located in barrier tissues such as the skin must endure repeated bouts of wound repair. Clinical observations over an organism’s lifetime in order to maintain tissue homeostasis. During stem cell repair, hair follicle stem cells (HFs) enter the highly immunosuppressive, where they must survive to fuel epithelial regeneration. On the other hand, skin squamous cell carcinoma (SCC) arises when tumor-initiating SCs (iSCs) acquire mutations that allow survival and immune evasion. Cancer, then, can be thought of as a wound that never heals, especially given that patients suffering from chronic wounds have increased risk of developing malignancy. Recent work has confirmed that wounded and tumorigenic SCs indeed display similar phenotypes, leading us to hypothesize that common signaling pathways may be activated in the wound and tumor environment and that these mechanisms promote SC survival in the face of inflammation. To test this, we studied HFSCs, which are responsible for generating hair follicles and repair as well as give rise to skin SCCs, upon acquiring mutations that elevate RAS/MAPK signaling. Using a sophisticated genetic reporter system, we found that both normal HFSCs during wounding and iSCs initiating oncogenic Hras and E1a-driven SCC respond by upregulating the MAPK (ERK) and Wnt signaling pathways. This short-list of genes that are activated in both wounded HFSCs and SCC-iSCs, which can be induced by these signals in vitro. This short-list provided guidance for functional studies that identify key genes involved in the process. Overall, these data show that native or cancer-related growth was monitored in vivo to obtain a survival advantage during inflammatory pathways. Our findings suggest that intervening this exploitation could be an important avenue for effective immunotherapy.