

## MEDIA RELEASE

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### Boosting the human body's fight against melanoma

Scientists at the Centenary Institute have uncovered a new pathway in the body which fights cancer; paving the way for the development of drugs that improve the prognosis of patients with melanoma and other types of cancer.

In order to effectively kill cancer cells, the immune system relies upon specialised white blood cells known as *dendritic cells* (DCs). DCs originate from stem and progenitor cells in the bone marrow, which travel to tumour sites via the blood. Although the importance of DCs in anti-tumour immunity is well-recognised, it has remained unclear exactly how these DC progenitors, known as pre-DCs, enter the tumour from the circulation.

In a recent study, published in the journal *Immunology and Cell Biology*, researchers at the Centenary Institute have identified the mechanisms by which an important anti-cancer pre-DC, pre-cDC1, migrate to melanoma. The identification of this pathway will help scientists develop therapies that enhance cDC1 presence in tumours to promote cancer cell killing by immune cells and tumour regression.

“Sadly, Australia has one of the highest rate of melanoma in the world, with more than 1800 Australians dying from the disease each year. Our research has improved our understanding of how the body mounts the anti-cancer immune response but has also opened up ways scientists can develop new therapies to target this cell type in melanoma,” says Stuart Cook of Centenary’s Skin Imaging and Inflammation laboratory, the lead author on the paper.

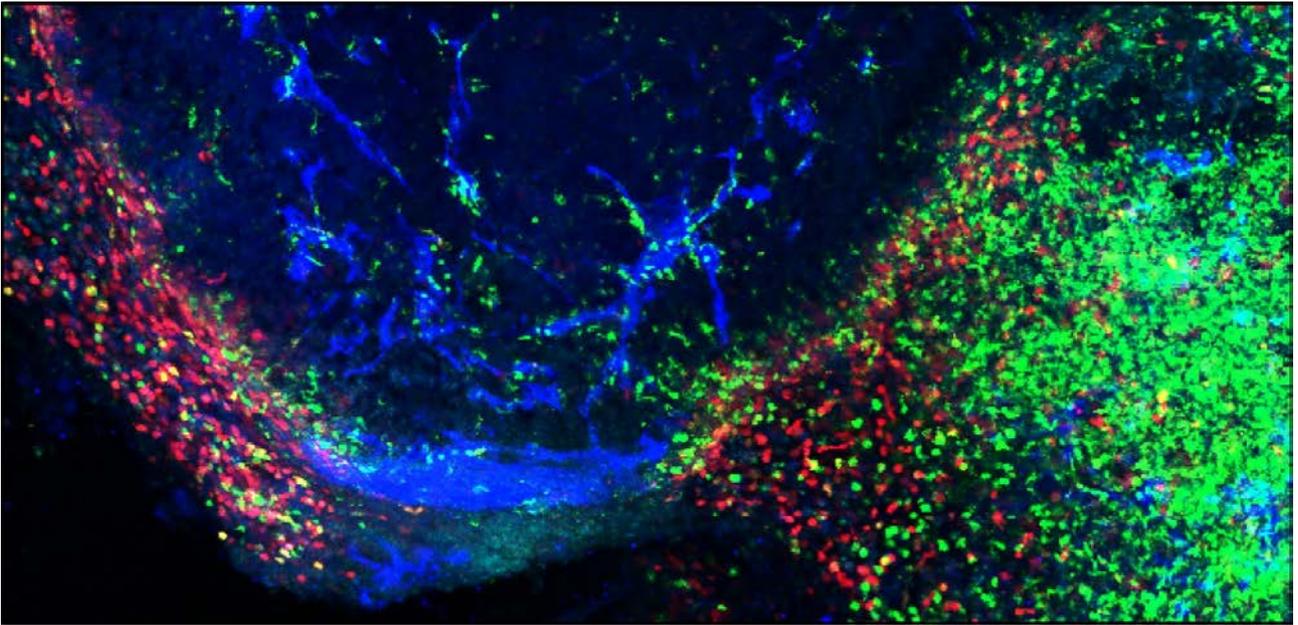
“Beyond melanoma, our discovery has implications for patients with other forms of solid tumours including lung, kidney and bladder cancer, where previous studies have shown the immune response can be bolstered to improve patient outcomes.”

*Differential chemokine receptor expression and usage by pre-cDC1 and pre-cDC2* has been accepted for publication in the journal *Immunology and Cell Biology*.

View the paper online here: <https://onlinelibrary.wiley.com/doi/abs/10.1111/imcb.12186>

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**Image of a melanoma:** Dendritic cells in red. Blood vessels in blue. Monocytes (a cell type that tends to promote tumour growth) in green.