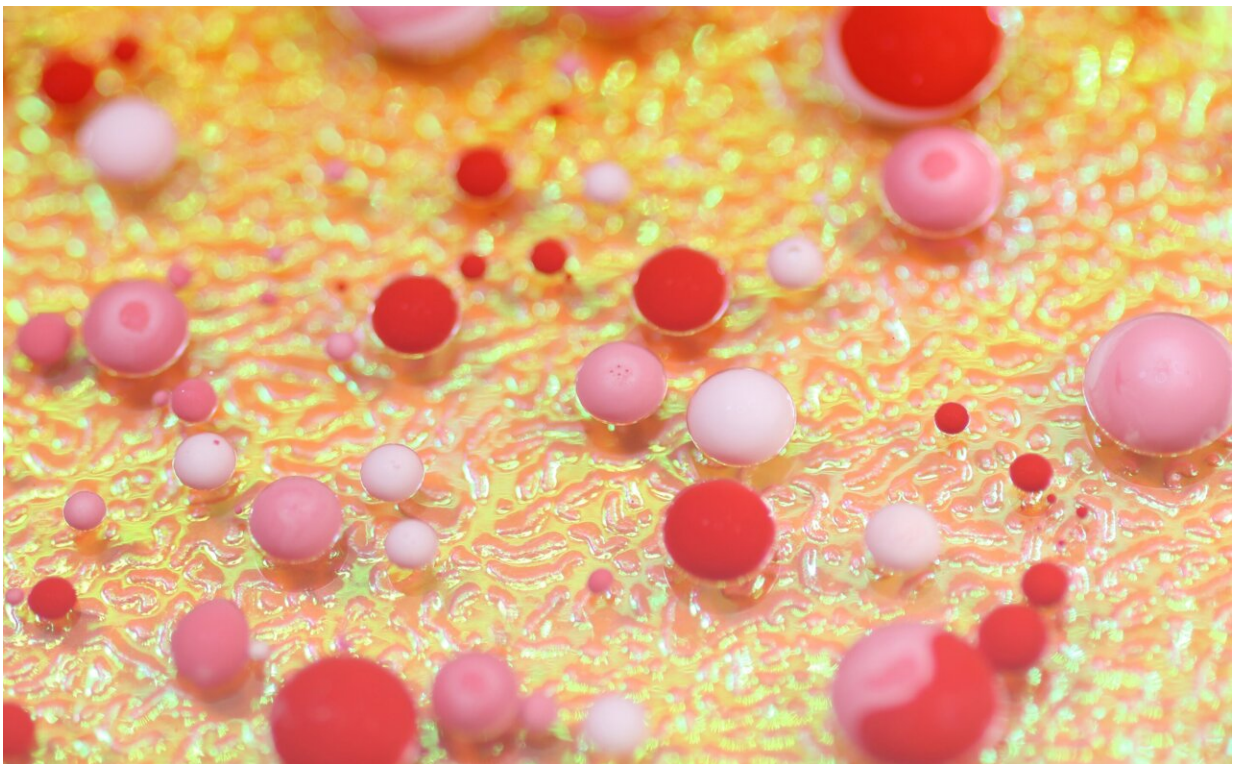


Researcher discusses how lung macrophages evolve during metastatic growth of lung colonies in a mouse model of melanoma

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Credit: Unsplash/CC0 Public Domain

A new editorial paper titled "A macrophage is a macrophage is a macrophage—in metastasis" has been published in *Oncotarget*.

In this new editorial, researcher Thomas T. Tapmeier from Monash University, Hudson Institute of Medical Research and University of Oxford discusses a recent study he co-authored on how [lung macrophages](#) evolve during metastatic growth of lung colonies in a mouse model of [melanoma](#).

Macrophages have important roles in the response to infection or injury and can orchestrate the appropriate response after sampling their microenvironment, devouring anything untoward and presenting ingested antigens to T cells to elicit an adaptive immune response. In [adult life](#), they develop from bone marrow-derived precursors and circulating monocytes, which differentiate into macrophages within tissue.

"Apart from their role in clearing challenges to tissue integrity, macrophages have an essential role in growth-related processes such as angiogenesis and vascular remodeling, neural patterning, and ductal growth of developing glands," says Tapmeier.

However, their powers can be usurped by tumors, which cannot grow beyond a certain size or metastasis without the help of macrophages. This is crucial, as the [primary tumor](#) might be amenable to treatment—so that patients can live with it—but metastasis is yet untreatable and inevitably becomes incompatible with survival. Macrophages perform a range of physiological functions and are able to activate function-specific gene repertoires; however, surface markers for selectively targeting macrophages of one or another function are still elusive, despite recent advances in the field.

"Thus, therapy attempts based on countering macrophages try to target the surface receptors that recruit them to sites of infection, inflammation or growth," says Tapmeier.

More information: Thomas T. Tapmeier, A macrophage is a

macrophage is a macrophage—in metastasis, *Oncotarget* (2023). DOI: [10.18632/oncotarget.28423](https://doi.org/10.18632/oncotarget.28423)

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