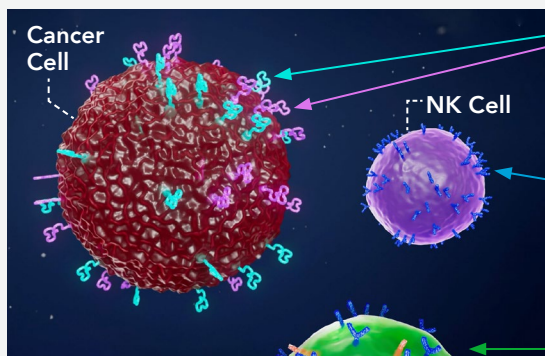


# EXPRESSION OF MICA/B

(MHC CLASS I CHAIN-RELATED PROTEIN A and B)



## WHAT IS MICA/B?



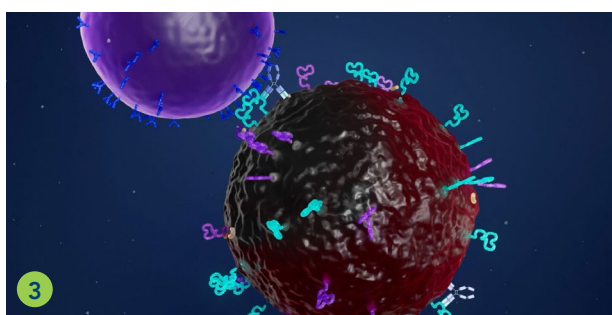
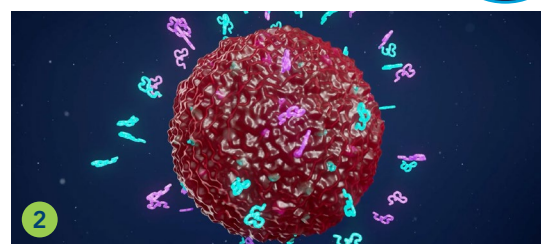
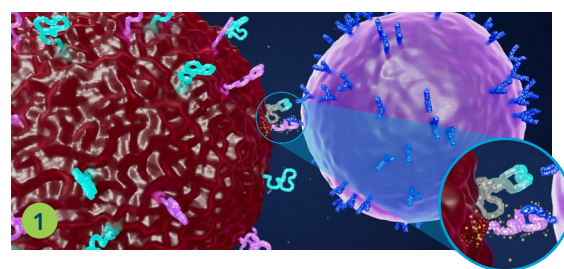
**MICA** and **MICB** (major histocompatibility complex class I chain-related molecule A and B) are surface proteins that are expressed on many solid tumors and hematological malignancies with limited expression on normal tissue.<sup>1</sup>

**NKG2D** (natural killer group 2 member D) ligands, like MICA/B, are upregulated when a cell is stressed or damaged allowing for recognition by NKG2D-expressing cytotoxic immune cells, such as NK and certain subsets of **T cells**.<sup>2</sup>

## FUNCTION OF MICA/MICB

When MICA or MICB binds to NKG2D-expressing immune cells, a series of intracellular signaling pathways are triggered. This activation results in **1** secretion of cytokines and release of cytotoxic granules containing perforin and granzymes to induce cell death of target cells expressing MICA or MICB.<sup>3</sup>

However, cancer cells have established mechanisms to evade NKG2D-mediated destruction by **2** shedding of MICA/B from their cell surface.<sup>4</sup>



## RESEARCH IMPLICATIONS AND INTERACTIONS

Restoring MICA/B on the surface of cancer cells is a novel therapeutic strategy to enable **3** immune-mediated killing of cancer cells, while leaving healthy tissue unharmed.<sup>2,3</sup>

MICA/B is one of the pathways currently being investigated by Cullinan Therapeutics as part of our modality-agnostic, targeted approach to discover and develop molecules with the potential to make a meaningful difference in patients' lives.

Learn more about our research by visiting: <https://cullinatherapeutics.com/pipeline>

### REFERENCES:

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3. Ferrari de Andrade L, Tay RE, Pan D, et al. Antibody-mediated inhibition of MICA and MICB shedding promotes NK cell-driven tumor immunity. *Science*. 2018;359(6383):1537-1542.
4. Xing S, F de Andrade L. NKG2D and MICA/B shedding: a 'tag game' between NK cells and malignant cells. *Clin Transl Immunology*. 2020;9.

Mechanism descriptions are based on pre-clinical data.