

RESURRECT NK cells cure metastatic cancer in mouse models

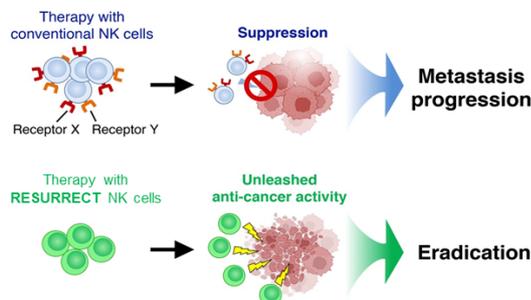
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CHALLENGE

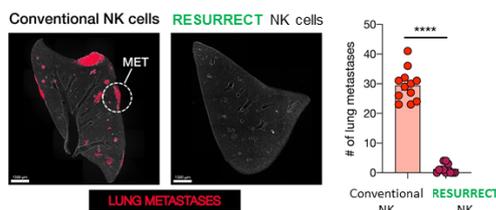
Metastatic cancer is responsible for the majority of cancer-related deaths. The main reason for the progression of metastatic cancers is that surgery and subsequent radio- or chemotherapies often fail to remove all cancer cells that have started to form metastases in different organs of the body. Metastases are also problematic because they have often developed immunosuppressive resistance mechanisms protecting them from immunotherapies that work well for primary tumors. So far, specific treatment options for metastatic cancers are very limited and the need for new treatment options is high.

INNOVATION

The inventors have developed a cell-based therapy for metastatic cancers based on RESURRECT NK cells. RESURRECT NK cells are fast-acting natural killer cells with cytotoxic anti-metastatic activity that have been shown to be a safe and well-tolerated therapy concept for cancer immunotherapy. The inventors exploit a unique mechanism to make NK cells much more efficient against metastatic cancer cells: They modify them to make them inert against immunosuppression in metastasis so that they maintain their full anti-metastatic activity. The inventors show that their inventive RESURRECT NK cell concept effectively cures metastasis in different cancer models including melanoma, colorectal cancer and pancreatic cancer. Importantly, the mechanism of action targeted by the inventive RESURRECT NK cells is conserved from mouse to human cancers. Another strong advantage is that the inventive RESURRECT NK cells can be used in an allogeneic setting, allowing their off-the-shelf use. Together, the aforementioned properties make the inventive therapy a very promising business opportunity for further development by a competent biotech or pharma partner.



RESURRECT NK cells efficiently cure from advanced cancer metastasis



COMMERCIAL OPPORTUNITIES

Off-the-shelf or personalized treatment of a broad range of metastatic cancers, alone or in combination with established cancer therapies, including immune checkpoint blockade. Post-surgery treatment to reduce the likelihood of secondary tumor/metastasis formation.

DEVELOPMENT STATUS

Mouse models for several metastatic cancers showed that test animals could be cured from cancer metastasis. Mice with RESURRECT NK cells do not show adverse effects or major signs of toxicity. Human RESURRECT NK Cells are similarly resistant as mouse RESURRECT NK Cells to immunosuppression by metastatic cancer cells *in vitro*.