

Precise T cell recognition programs designed by transcriptionally linking multiple receptors

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A logic to cell-cell recognition

There has been exciting progress in the field of cancer immunotherapy, which harnesses a patient's own immune system to kill cancer cells. However, achieving precise recognition of cancer cells remains challenging. Cells engineered with synthetic Notch (synNotch) receptors bind to specific antigens, and binding induces the expression of defined genes. Williams *et al.* used synNotch modules as transcriptional connectors that daisy-chain together multiple receptors. They engineered T cells that can recognize up to three target antigens expressed on or inside cancer cells and integrated these inputs to achieve NOT, AND, and OR logic. The engineered cells achieved precise recognition of targeted cancer cells.

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