

Video Legends

Video 1:

Loss of calcein fluorescence is an early indicator of target cell death: Representative maximum projection time-lapse imaging of a YTS NK cell conjugated to 721.221 target cell. The 721.221 cell was stained with Calcein AM orange-red and imaging was performed in the presence of SYTOX Green in the imaging medium.

Video 2:

721.221 target cell imaging in absence of effector NK cells: Representative maximum projection time-lapse imaging of a 721.221 target cells. 721.221 cells were stained with Calcein and imaging was performed in the absence of effector NK cells.

Video 3:

Live single-cell imaging: YTS killing of 721.221 cells: Representative maximum projection time-lapse imaging of a LAMP1-pHluorin transduced YTS NK cell conjugated to a 721.221 target cell. YTS cells were loaded with LysoTracker Deep Red and incubated with calcein AM orange-red labeled 721.221 target cells.

Video 4:

Live single-cell imaging: NK92 killing of 721.221 cells: Representative maximum projection time-lapse imaging of a LAMP1-pHluorin transduced NK92 NK cell conjugated to a 721.221 target cell. NK92 cells were loaded with LysoTracker Deep Red and incubated with calcein AM orange-red labeled 721.221 target cells.

Video 5:

Initial degranulations in a NK cell are sufficient to kill the target cell: Representative maximum projection time-lapse imaging of a YTS NK cell conjugated to a 721.221 target cell. YTS cells were photo-ablated after initial 20 minutes of imaging (in the region of interest defined by the translucent white circle) when the lytic granules had polarized towards the immune synapse and the target cell had begun to lose calcein fluorescence.