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NK cells recognize and kill human glioblastoma cells with stem cell-like properties.

[Castriconi R](#), [Daga A](#), [Dondero A](#), [Zona G](#), [Poliani PL](#), [Melotti A](#), [Griffero F](#), [Marubbi D](#), [Spaziante R](#), [Bellora F](#), [Moretta L](#), [Moretta A](#), [Corte G](#), [Bottino C](#).

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In this study, cancer cells were isolated from tumor specimens of nine glioblastoma patients. Glioblastoma cells, cultured under suitable culture conditions, displayed markers typical of neural stem cells, were capable of partial multilineage differentiation in vitro, and gave origin to infiltrating tumors when orthotopically injected in NOD/SCID mice. These cells, although resistant to freshly isolated NK cells, were highly susceptible to lysis mediated by both allogeneic and autologous IL-2 (or IL-15)-activated NK cells. Indeed, all stem cell-cultured glioblastoma cells analyzed did not express protective amounts of HLA class I molecules, while expressing various ligands of activating NK receptors that triggered optimal NK cell cytotoxicity. Importantly, glioblastoma stem cells expressed high levels of PVR and Nectin-2, the ligands of DNAM-1-activating NK receptor.

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