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## The cytotoxic action of the CD56+ fraction of cytokine-induced killer cells against a K562 cell line is mainly restricted to the natural killer cell subset

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### Abstract

**Background:** Cytokine-induced killer cells are polyclonal T cells generated ex vivo and comprise two main subsets: the CD56- fraction, possessing an alloreactive potential caused by T cells (CD3+CD56-), and the CD56+ fraction, characterised by a strong antitumour capacity induced by natural killer-like T cells (NK-like T, CD3+CD56+) and natural killer cells (NK, CD3-CD56+ bright).

**Materials and methods:** We investigated the cytotoxic action of selected CD56+ cell subpopulations against a human chronic myeloid leukaemia (K562) cell line.

**Results:** After immunomagnetic selection of the CD56+ cell fraction, NK bright cells (CD3-CD56+ bright) and two subsets of NK-like T cells (CD3+CD56+), called NK-like T CD56 dim and NK-like T CD56 bright, could be identified. The cytotoxic effect against K562 cells was mainly exerted by the NK bright subpopulation and resulted to be inversely correlated with the percentage of NK-like T CD56 dim cells in the culture. The lytic action appeared to be independent of cell degranulation as suggested by the lack of change in the expression of CD107a.

**Discussion:** We conclude that the cytotoxic action of CD56+ cells against a K562 cell line is mainly due to the NK cells.