Title: DIFFERENTIATION OF K562 CELLS INDUCED BY ANTISENSE OLIGONUCLEOTIDE TARGETING SURVIVIN

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OBJECTIVE: To study the role of survivin in differentiation of leukemic cell.

DESIGN: K562 cells were divided into 4 groups:555nmol/L ASON group, 544nmol/L NSON group, lipofectin group and control group. After transfection for 48 h, the changes of morphology and ultrastructure were observed. After transfection for 24, 48 h, the function of k562 cells were detected by benzidine dyeing, POX dyeing and NBT dyeing. The mean fluorescence intensing of CD33 was detected by flow cytometry. The method of immunohistochemistry was used to examine the protein level of survivin.

RESULT: After transfection with 555nmol/L ASON, k562 cells were induced to erythroid and myelocytic differentiation according to morphology and ultrastructure. The positive level of benzidine dyeing, POX dyeing and NBT dyeing were significantly higher than the NSON group, lipofectin group and control group. In ASON group, the mean fluorescence intensing of CD33 was significantly lower than that of other groups. After transfection for 48 h, the protein level of survivin in ASON group was decreased significantly.

CONCLUSIONS: ASON targeting survivin can induce k562 to erythroid and myelocytic differentiation.