

# **PENGARUH TERAPI SEL NATURAL KILLER (NK) TERHADAP VIABILITAS DAN APOPTOSIS PADA GALUR SEL KANKER KOLON HT-29 SECARA IN VITRO**

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## **ABSTRAK**

**Latar Belakang:** Kanker kolon merupakan salah satu penyebab utama kematian akibat kanker di dunia. Salah satu terapi alternatif adalah dengan menggunakan sel imun. Sel natural killer (NK) terbukti efektif dalam melawan sel kanker kolon. Efektivitas sel NK dalam melawan sel kanker kolon diuji di laboratorium menggunakan galur sel kanker kolon HT-29. **Metode:** Penelitian ini merupakan penelitian eksperimental murni dengan kelompok kontrol. Data yang diperoleh diolah menggunakan SPSS dengan uji statistik *one-way* ANOVA. Hasil analisis dinyatakan signifikan apabila p-value <0,05. **Hasil:** Terdapat penurunan viabilitas dan peningkatan apoptosis galur sel kanker kolon HT-29 seiring dengan peningkatan rasio efektor:target (E:T). **Kesimpulan:** Terapi sel NK paling efektif menurunkan viabilitas dan meningkatkan apoptosis pada galur sel kanker kolon HT-29 pada rasio 50:1.

**Kata kunci** : Imunoterapi, sel natural killer, viabilitas, apoptosis, galur sel kanker kolon HT-29.

# THE EFFECT OF NATURAL KILLER (NK) CELL THERAPY ON VIABILITY AND APOPTOSIS OF THE HT-29 COLON CANCER CELL LINE IN VITRO

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## *ABSTRACT*

**Background:** Colon cancer is one of the leading causes of cancer-related mortality worldwide. One alternative therapeutic approach involves the use of immune cells. Natural killer (NK) cells have been shown to be effective in targeting colon cancer cells. The effectiveness of NK cells against colon cancer was evaluated in vitro using the HT-29 colon cancer cell line. **Method:** This study was a true experimental study with a control group design. The collected data were analyzed using SPSS software. Statistical analyses included one-way analysis of variance (one-way ANOVA). Results were considered statistically significant at a  $p$ -value  $< 0.05$ . **Results:** A decrease in cell viability and an increase in apoptosis of HT-29 colon cancer cell line were observed with increasing E:T ratios. **Conclusion:** NK cell therapy was most effective in reducing cell viability and increasing apoptosis of HT-29 colon cancer cell line with E:T ratio of 50:1.

**Keywords :** Immunotherapy, natural killer cells, viability, apoptosis, HT-29 colon cancer cell line.