

CASTICIN: A PROMISING CANDIDATE TO DEVELOP A STEM CELL TARGETED STRATEGY IN AML TREATMENT



Tuğba ERKMEN¹, Belgin SERT¹, Halil ATEŞ², Pembe KESKİNOĞLU³, Semra KOÇTÜRK¹

1 Dokuz Eylül University, Faculty of Medicine Department of Biochemistry, İzmir, Turkey
2 Dokuz Eylül University, Faculty of Medicine, Institute of Oncology İzmir, Turkey.
3 Dokuz Eylül University, Faculty of Medicine Department of Public Health, İzmir, Turkey.

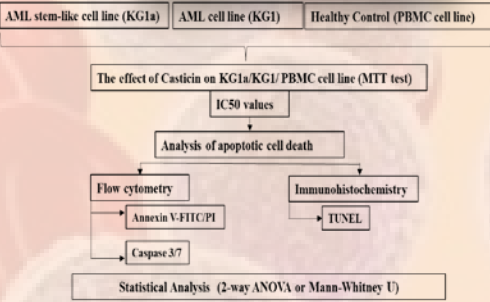


Introduction

Acute myeloid leukemia (AML) is the most common form of acute leukemia with genetic and epigenetic heterogeneity. Although current therapeutic agents provide successful remission, 5-year survival rates are still low. Insufficiency of targeting leukemia stem cells is considered as the main obstacle that causes drug resistance and relapse. Studies showed that Casticin has antiproliferative effects on leukemic cells, but its effects on *leukemic stem cells* are still unclear. In this study, we aimed to investigate the antiproliferative capacity of Casticin on AML stem-like (KG1a) cells and its relatively mature parental (KG1) cells in comparison with healthy peripheral blood mononuclear cells (PBMC).

Keywords: Apoptosis, Acute myeloid leukemia, Casticin, Cancer stem cells

Material & Methods



Results

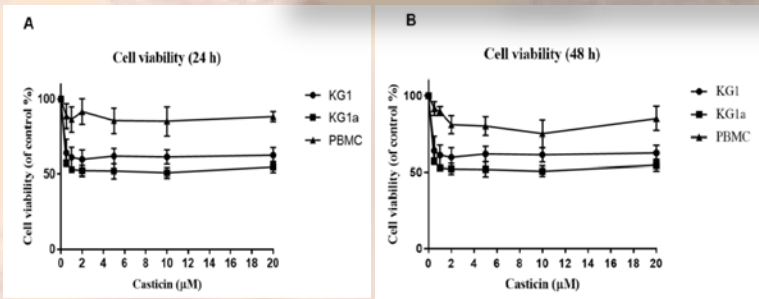


Fig. 1 a-b. The relative percentage of Casticin-treated KG1, KG1a, and PBMC cell viabilities for 24 h (a) and 48 h (b).

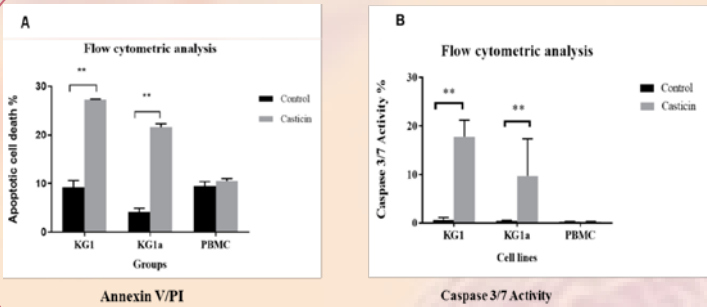


Fig. 2. a-b. Flow cytometric analyses of cell lines. (a) Comparison of apoptotic cell death between Casticin-treated groups (KG1/KG1a/PBMC-Casticin) and their control (b) Comparison of Caspase 3/7 activity between the groups (**p<0.01vs. control).

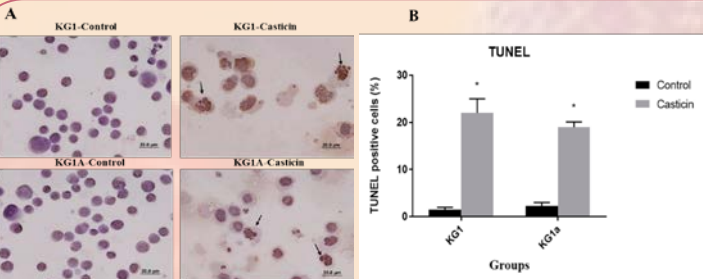


Figure 3. a-b. The image of the apoptotic cell death analyses by TUNEL assay. The results, DNA fragmentation, (b) are expressed as Median (±interquartile range (IQR)) of 3 experiments (*p<0,05 versus control).

Discussion

- ✓Casticin triggers apoptosis KG1a AML stem cell-like cells and KG1 AML blasts.
- ✓Casticin DOES NOT trigger in Healthy PBMC cells.
- ✓Future directions: To uncover the mechanism of action

References

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