

Synergic effect of vitamin D supplementation and PARP Inhibitors on TNBC cell line proliferation

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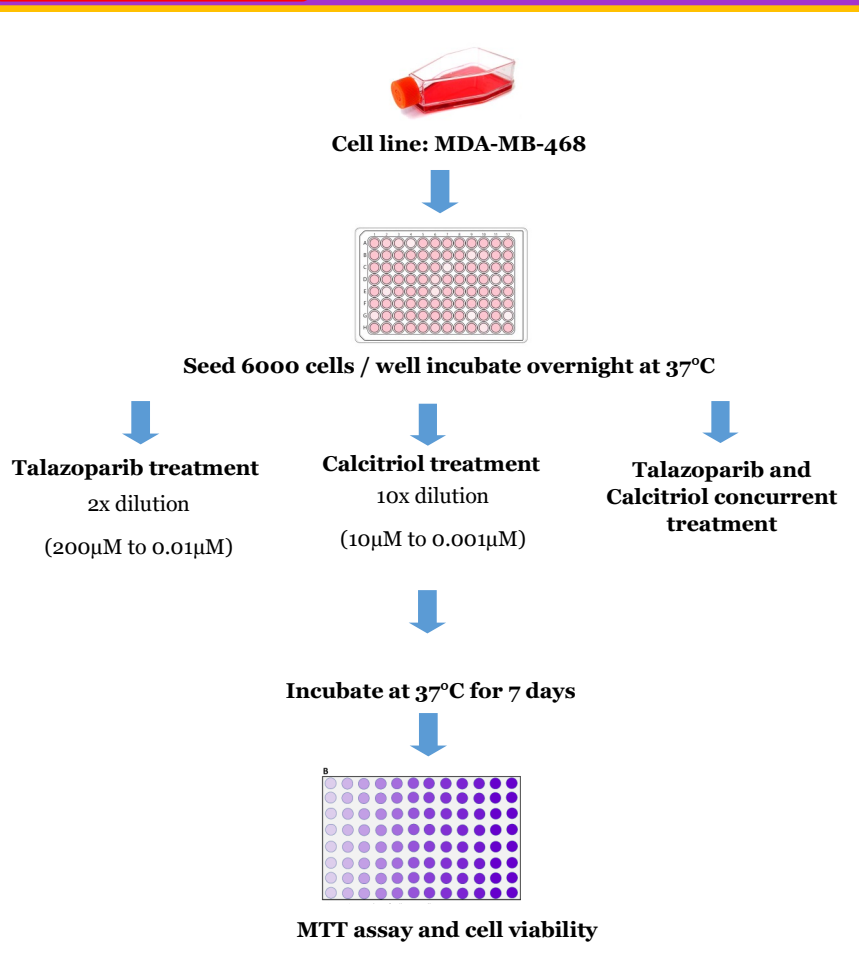
INTRODUCTION

Triple-negative breast cancer (TNBC) has a high mortality rate with aggressive proliferation and metastasis and a lack of effective therapeutic options. Some poly (ADP-ribose) polymerase inhibitors (PARPi) such as Talazoparib, have been tested in patients with metastatic breast cancer. However, the side effects of using the effective therapeutic dose is a concern. Evidence exists about Vitamin D's regulatory effect on cell junction molecules' formation and degradation in some cancer cells, which affects cell viability.

OBJECTIVE

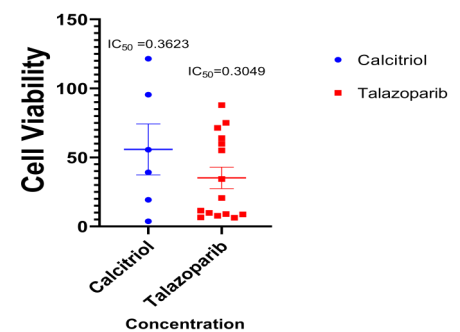
To investigate the synergic effect of Vitamin D (Calcitriol) and Talazoparib on MDA-MB-468, a TNBC cell line.

METHODOLOGY

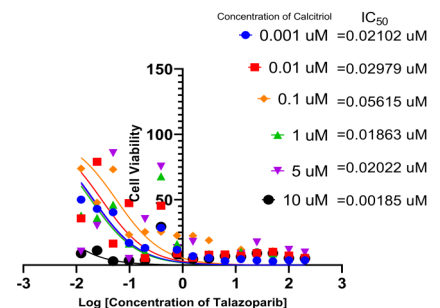


RESULTS

A. Graph of cell viability of Talazoparib and Calcitriol



B. Graph of cell viability of concurrent treatment



DISCUSSION

- Graph A result shown IC₅₀ of Talazoparib and Calcitriol are 0.3049µM and 0.3623µM respectively.
- Graph B result shown the synergic effect of 0.001 µM Calcitriol and Talazoparib reduced the IC₅₀ of Talazoparib to 0.02102 µM.

CONCLUSION

The proliferation of MDA-MB-468 was inhibited by both Calcitriol and Talazoparib alone, the synergic effect of vitamin D with Talazoparib had an inhibitory effect on MDA-MB-468 proliferation in a lower dose of Talazoparib.