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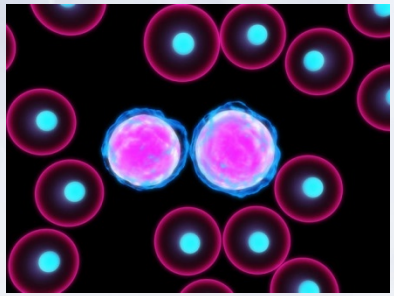
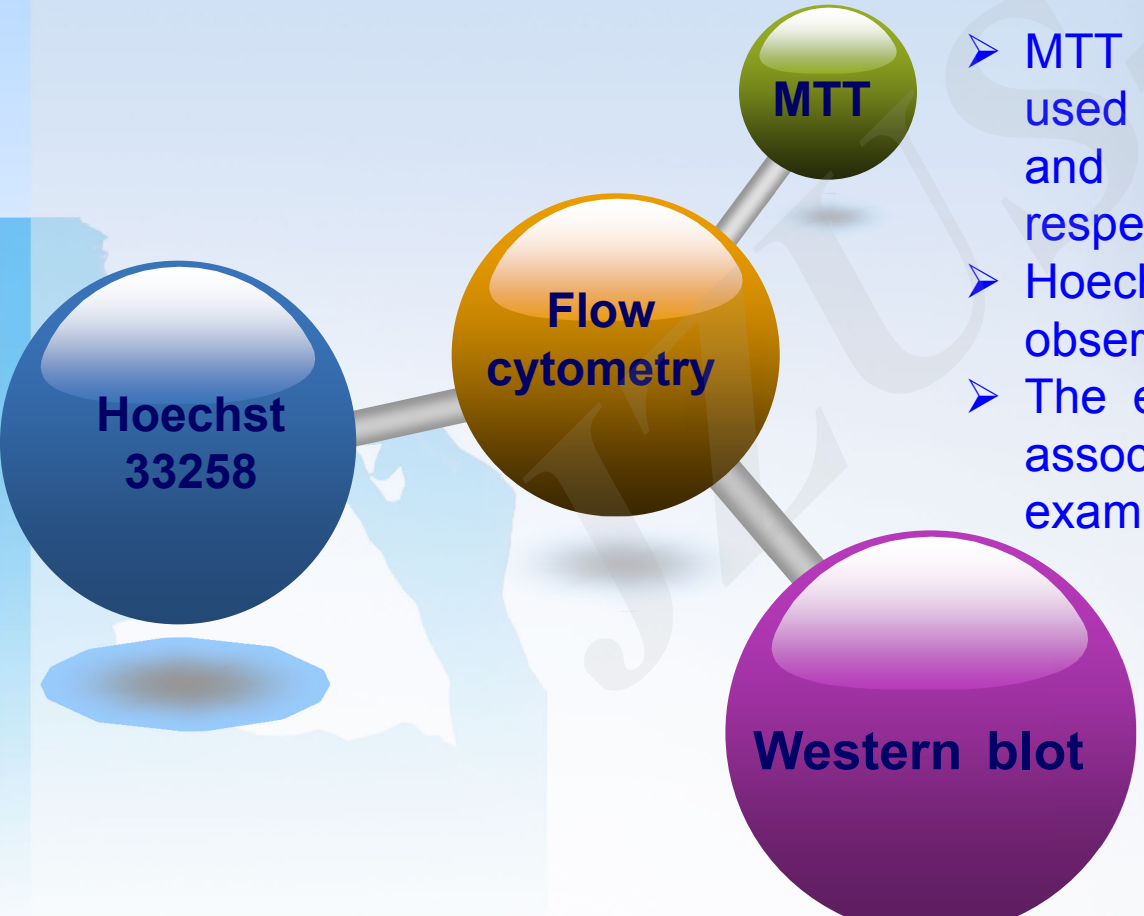
Pure total flavonoids from *Citrus paradisi* Macfadyen act synergistically with arsenic trioxide in inducing apoptosis of Kasumi-1 leukemia cells *in vitro*

Key words：PTFCs, Human myeloid leukemia cells, Growth inhibition, Synergistic effect, Apoptosis



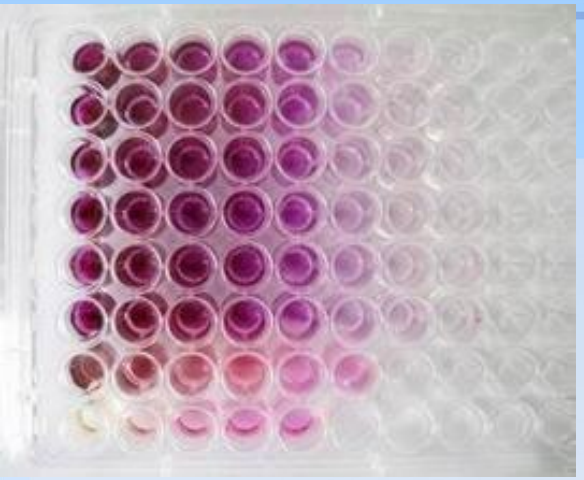
Research Summary

This study is aimed at investigating the potential effect of PTFCs separate or combined with Arsenic trioxide on the proliferation of human myeloid leukemia cells and the mechanisms underlying the action of PTFC

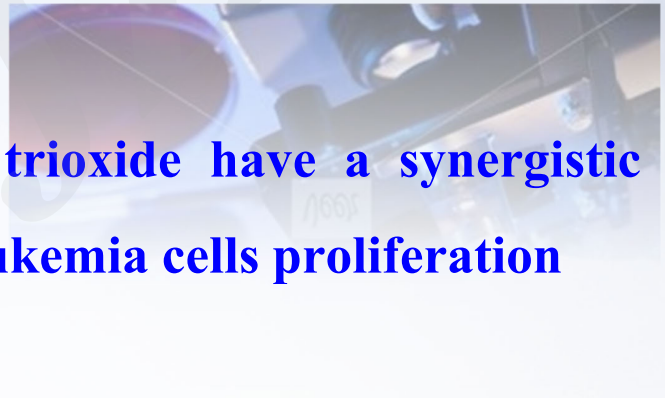


- MTT assay and flow cytometry were used to evaluate cell growth inhibition and apoptosis of PTFC and As_2O_3 respectively or their combination
- Hoechst33258 staining was used to observe the morphological changes
- The expression of Protein which were associated with apoptosis were examined by Western blot

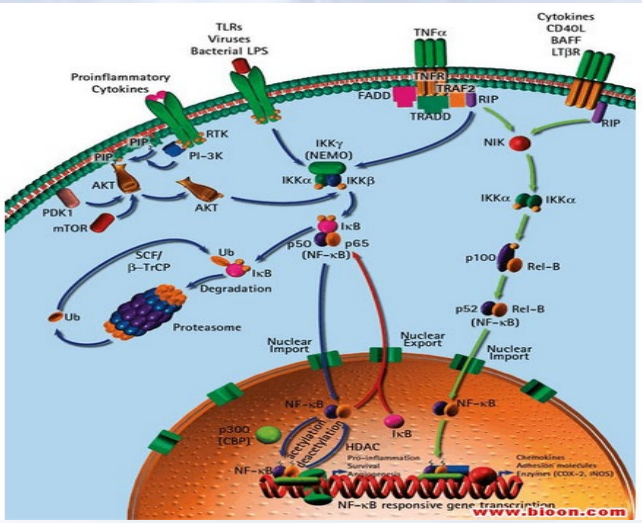
Innovation points



- **PTFCs is the new compounds extract from the peel of Citrus paradisi through HPLC**



- **PTFCs and arsenic trioxide have a synergistic effect in inhibiting leukemia cells proliferation**



Results

PTFC combined with arsenic trioxide could significantly inhibit the growth of Kasumi-1 cells.

Hoechst33258 staining showed more significant morphological changes and more apoptosis in combination treatment.

Western blot showed PTFC separated or combined with arsenic trioxide triggered Kasumi-1 cell apoptosis by activating the PARP and caspase 3/9 pathways.