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Spondias Mombin Leaf Extract show selective toxicity to testicular cancer cells lines in vitro

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Abstract

Objective

Spondias mombin grows in Africa and South America and is widely used as a natural remedy for infections, gastrointestinal disorders and in obstetric care.

Previous studies have examined the cytotoxic activity of *Spondias mombin* leaf extract against a number of cancer cells lines in vitro including HL60 (AML), B16F10 (melanoma) and PC3 (prostate). A pre-clinical model has shown considerable in vivo activity against chemically induced tumors in mice.

Additional studies have indicated that *Spondias mombin* leaf extracts has a major detrimental impact on spermatogenesis in experimental animals without appreciable systemic toxicity.

To date there is no data examining if *Spondias mombin* leaf extract has toxicity towards testicular cancer cells lines. In this study we have assessed the in vitro toxicity of *Spondias mombin* leaf extract against the NCCIT and TCAM testicular cancer cells lines compared to a panel of non-GCT cancer cell lines.

Methods

Cells lines were grown in standard tissue culture conditions. Assays were performed in 96 well plates with exposure of dilutions of *Spondias mombin leaf* extract. After incubation for 3 days, cell viability was estimated using a Resazurin assay.

Results

The assays indicate that the testicular cancer cells lines NCCIT and TCAM are appreciably more sensitive to growth inhibition compared to the non GCT cells lines. In Figure 1, it is apparent that at a dilution of 1uG/ml the growth of the testicular cancer cell lines NCCIT and TCAM was almost completely inhibited whilst there were much more modest impacts on the non GCT cell lines, A549 (lung adenocarcinoma), Melanoma, Mia Paca (pancreatic) and K562 (CML).

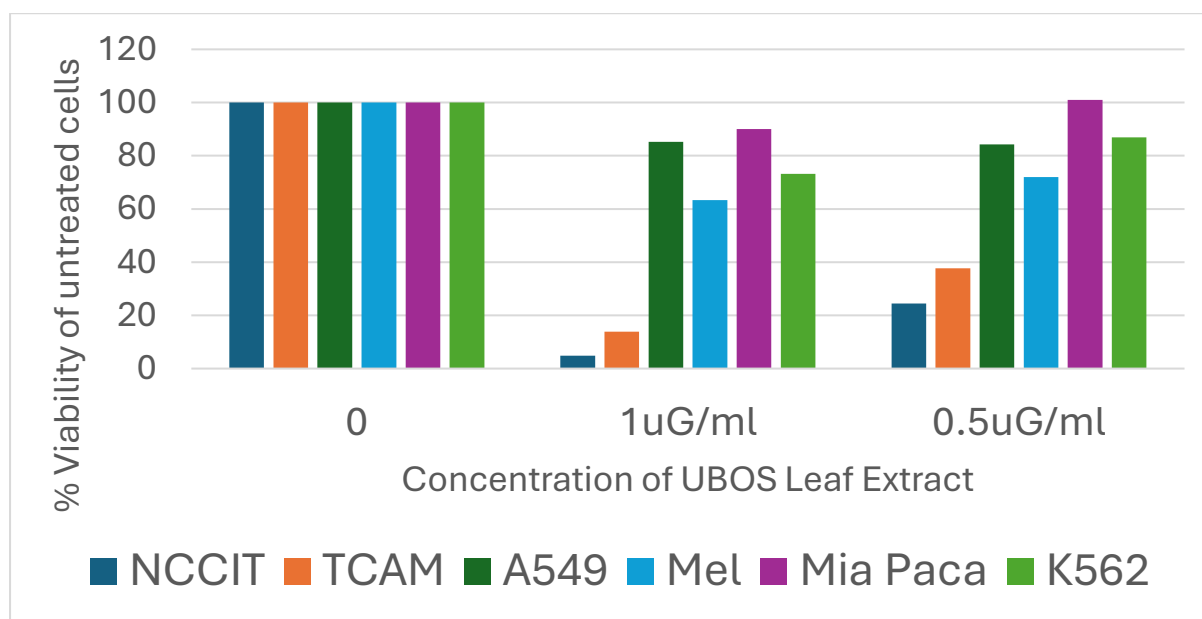


Fig 1. Cytotoxic effects of UBOS leaf extract on NCCIT and TCAM GCT lines and other control cells.

Conclusions

Spondias mombin leaf extract has enhanced in vitro toxicity against testicular cancer cell lines compared to non-GCT cells.

This data combined with the inhibition of spermatogenesis in animal models and low systemic activity suggests that formal assessment of the components of *Spondias mombin* leaf extract with regard to cytotoxic action is indicated.