

34th Euro-Global Summit on **Cancer Therapy & Radiation Oncology**
 &
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Anti-metastatic activity of *Senna alata* extract on SW1353 chondrosarcoma cancer cell line

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Statement of the Problem: Chondrosarcoma is the second most common malignant tumor of bone. The cancer originates from chondrocytes with abnormal proliferation and usually grows within a bone or on its surface. As 90% of human cancer death is due to metastasis process, in this study the anti-metastasis activity of *Senna alata* extract was studied in the highly metastasis SW1353 cell line. *Senna alata* is a medicinal plant which has been used in traditional folk medicine especially antimicrobial activity.

Methodology & Theoretical Orientation: *S. alata* extract was dissolved and diluted in DMSO at the desired concentrations. MTT assay was used to investigate the effects of *S. alata* extract on cell proliferation and cell growth. To study the effects of *S. alata* extract on cell migration and invasion, wound healing assay and transwell migration assay were performed, respectively. Signaling proteins were observed using Western blot analysis.

Findings: Our study found that at sub-toxic dose of *S. alata* extract inhibited cell migration and cell invasion in SW1353 treated cells. Moreover, Western blot analysis indicated that *S. alata* extract down-regulated p-ERK1/2 and p-Akt (S473) that involved in cell growth and proliferation.

Conclusion & Significance: *S. alata* extract showed the effect on metastasis inhibition in SW1353 treated-cells. In addition, *S. alata* extract could inhibit cell growth and proliferation via mediator proteins, ERK1/2 and Akt. These finding could be useful in the development of *S. alata* extract to be a metastasis inhibition agent.

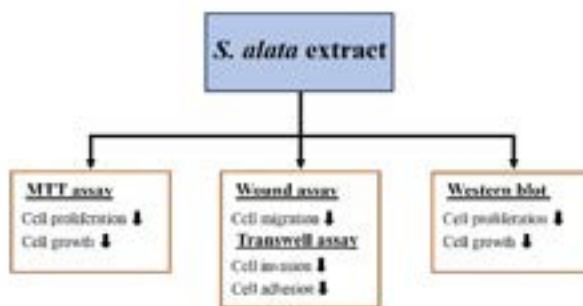


Figure 1: Effects of *S. alata* extract on cell proliferation, growth, migration, invasion and adhesion in SW1353 treated cells. (↓ decrease).

JOINT EVENT

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Recent Publications

1. Weigelt B, Peterse J L and Veer L J (2005) Breast cancer metastasis: markers and models. *Nature Reviews Cancer* 5(8):591-602.
2. Makinde A (2007) Antimicrobial activity of *Cassia alata*. *African Journal of Biotechnology* 6(13):1509-1510.
3. Olarte E I, Herrera A A, Villaseñor I M and Jacinto S D (2013) *In vitro* antitumor properties of an isolate from leaves of *Cassia alata* L. *Asian Pacific Journal of Cancer Prevention* 14(5):3191-3196.
4. Xiao T, Kao CF, Krogan N J, Sun Z-W, Greenblatt J F, Osley M A and Strahl B D (2005) Histone H2B ubiquitylation is associated with elongating RNA polymerase II. *Molecular and Cell Biology* 25(2):637-651.

Biography

Ramida Watanapokasin has her expertise in Cancer Biology and Molecular Biology. Her research focuses on identification of drug-lead for cancer by bioactive compounds from medicinal plants and microorganisms.

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