

## 2<sup>nd</sup> World Congress on **Breast Cancer**

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### Lactoferricin B peptide kills breast cancer cells *in vitro*; potential for therapy

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Breast cancer is one of the most common cancers in women and is currently treated by surgery and a combination of chemotherapy and radiotherapy. Lactoferricin B (Lfcin B) is a 25-mer natural peptide obtained from milk protein lactoferrin and is capable of inducing apoptosis in cancer cell lines. The effect of Lfcin B in breast cancer cell lines has not been tested so far. In this study, the effects of Lfcin B peptide was tested on a panel of breast cancer cell lines comprising of MCF 7 (Luminal A type expressing estrogen receptor and progesterone receptor; triple negative), MDA-MB-231 (claudin low type; triple negative), SKBR3 (over-expressing HER2) and MDA-MB-468 (basal type). The mammary epithelial cell line, MCF-10a was used as a normal control. Lfcin B was dissolved in plain medium and the cells were treated with various concentrations of the peptide (100 µg/ml to 300 µg/ml) to study its effect on proliferation, cell migration and apoptosis. Apoptosis was studied by flow cytometry of annexin-PI stained cells and western blot while changes in the gene expression induced by Lfcin B were analyzed by quantitative RT-PCR. Lfcin B peptide induced significantly more apoptosis in all the breast cancer cell lines studied compared to normal breast epithelial cells. The peptide suppressed cell migration in the invasive cell lines MDA-MB-231 and MDA-MB-468. Our studies suggest a potential for Lfcin B to be developed for breast cancer therapy.

#### Biography

Ebenezer Chitra completed her PhD from National Institute of Immunology, Jawaharlal Nehru University, New Delhi, India. She did her Post-doctoral fellowship in National Health Research Institutes, Taiwan working on cell signaling in cancer. Currently, she is a faculty in the School of Medicine in International Medical University. Her research interest is in cancer biology.

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