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IISER Bhopal identifies mechanism of breast cancer progression

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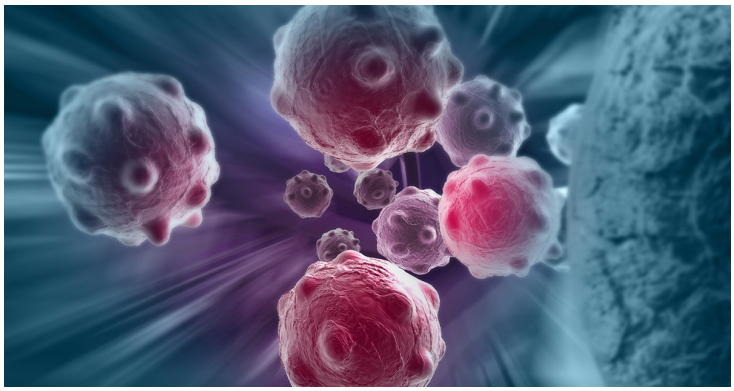

Researchers at the Indian Institute of Science Education and Research (IISER) Bhopal have shown the mechanism by which breast cancer cells proliferate and spread. Their findings have important implications in designing therapeutic interventions for breast cancer.

The IISER team studied the regulation of one particular gene called ‘ESRP1’ in breast cancer. The researchers found that there is a difference in the expression of the ESRP1 gene between normal and tumour tissues of breast cancer patients. The researchers explored the regulatory mechanism behind ESRP1 upregulation in breast tumour tissues.

Further, elaborating on how this research will impact breast cancer treatment, Dr. Sanjeev Shukla said, “The finding that such intelligent regulatory mechanisms exist in cancer cells to alter the expression of essential genes as and when required, resulting into cancer progression, lays the foundation towards a better understanding of a complex disease and for improved therapeutic strategies.”

Under regular oxygen conditions, cancer cells upregulate ESRP1 to help them multiply in the primary cancerous zone, but under oxygen deficiency, ESRP1 is downregulated, leading to the break-up of the cancer cells from the primary region and spread to other parts of the body. Understanding this orchestration of ESRP1 by breast cancer cells can help in devising strategic therapeutic interventions, which the IISER team continues to work towards.