

Popular Science Summary

Analysis of the effect of Bile Salt Stimulated Lipase and Estrogen in Breast cancer cells using Zebrafish Model

Cancer is a disease that affects different parts of the body and causing various abnormalities that affect the functioning of the human body. According to the reports, breast cancer is the second most common cancer diagnosed worldwide out of which 75% percent of them are hormone dependent breast cancer. Bile Salt Stimulated Lipase, an enzyme secreted mostly by pancreas and mammary glands in humans, have potential in causing inflammatory joint diseases and recent studies have found that BSSL was expressed more in breast cancer cells when compared with normal cells. In this experiment, the role of BSSL in tumor was studied. Zebrafish embryos were injected with two different cancer cells and treated with BSSL and estrogen. From the results, it was clear that the cancer cells that respond to the hormone have developed more tumor upon BSSL exposure when compared with cells that are not treated with BSSL. Other cancer cell type that does not respond to the hormones show no effect. In this experiment, the spreading of cancer to other parts of the zebrafish was also analyzed and BSSL also induced tumor spreading during certain conditions. An attempt to study the effect of B cells to the tumor with BSSL was also done but the experiment was not successful. Overall, the experiments were able to show that the BSSL has the capability to promote cancer and may be interesting for future cancer treatment strategies.