



## PBS Extract of Guava Leaves: Showing Inhibitory Activity of MMP-2 from Breast Cancer Patients

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### ABSTRACT (upto 300 words)

Matrixmetalloproteinase-2 (MMP-2), also called gelatinase-A, is a 72 Kd protein present in chromosome 16 in human. It is a zinc binding protein, responsible for the degradation of Extra Cellular Matrix (ECM) in normal physiological as well as disease processes like arthritis and cancer. PBS (Phosphate Buffed Saline), pH 7.4 extract of Guava leaves (*Psidium guajava L.*) inhibits the active MMP-2 like molecule both of plant origin as well as active MMP-2 of human (breast cancer patients' saliva) origin. The zymogram and ELISA Were developed of different samples following standard methods. The isolation and identification Of the new MMP2 inhibitor(s) for its molecular characterization is under investigation. It has a specific role in the cancer development and angiogenesis. MMP-2 contributes to cell migration. MMPs are the key to normal development as well as in the pathology of cancer and other inflammatory diseases. The inhibitors of MMP-2 activity are very important in maintaining the normal activity of MMP-2 and have an important role in the management of cancer. Regulation of MMP-2 activity is done by inhibitors like, TIMPs. In this report, we are discussing about a possible inhibitor(s) present in the PBS extract of

guava leaves, inhibiting the active MMP-2 present in the saliva of breast cancer patients.

### BIOGRAPHY (upto 200 words)

Dr. Kirat Kumar Ganguly is currently serving Michael Madhusudan Memorial College, a Govt. Aided College Assistant Professor (Stage II), HOD, Dept. of Microbiology, Durgapur. He did his Post-Doctoral at Thomas Jefferson University, Philadelphia, USA on the Prostate Cancer Biomarker discovery program in National Institutes of Health (NIH), U.S. Department of Health & Human Services, funded project. He was awarded Ph.D. degree from Jadavpur University and worked with Breast Cancer research from Chittaranjan National Cancer Institute, Kolkata under the Supervisorship of Dr. Amitava Chatterjee. He earned his Bachelor's and Master's degrees from Calcutta University and Kalyani University respectively.

He has Academic research experience of over 10 years and industrial research of over 2 years. He also taught B.Sc. and M.Sc. Microbiology/Biotech/Genetics in Kolkata and around.



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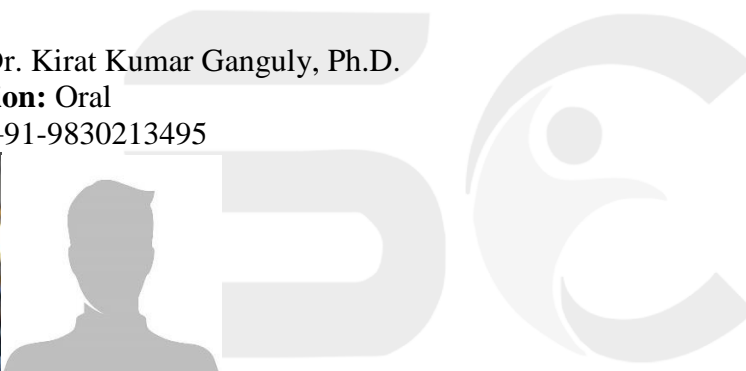
He worked In East India Pharmaceutical Works Ltd. (Molecular Biology and Biotechnology R&D), United Breweries Ltd (Microbiologist in QC), and GCC Biotech (Scientific support in genomic facility). He has Mentored 10 students for their research projects during their M.Sc.Biotechnology, and Microbiology. From Administrative perspective he is the Head Of the Department of Microbiology, Coordinator of

IQAC, and was coordinator of NAAC peer review team. He is the reviewer of several international journals. Dr. Ganguly published his research in more than 20 international, peer-reviewed journals and authored 3 book chapters. He is a life member of prestigious committees like the Indian society for Translational Research (ISTR), executive committee member of the Society for Biological Chemists (SBC) and eastern region coordinator of Microbiologists Society of India.

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