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DNA research key to better future

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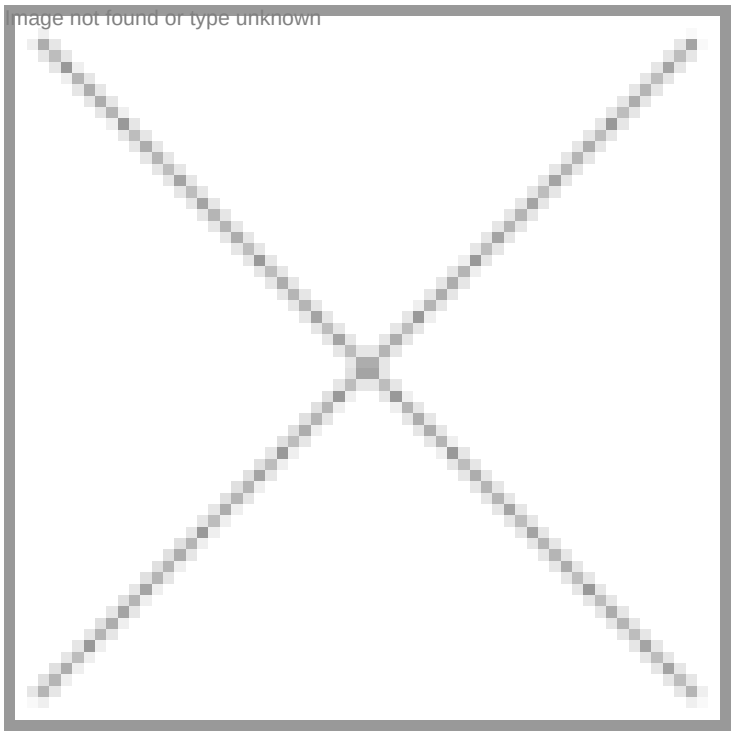

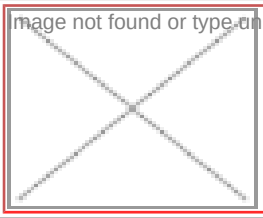

Biochem Research

Ms Bharathi Sriram
vice president, R&D, GangaGen, Bangalore

After more than seven decades since antibiotics first made their mark in medicine, today antibiotic resistance is cited as one of the most problematic issues. Taking a novel approach to solve this predicament is the team at GangaGen who is developing a phage protein P128 which can directly target the bacteria. Having led the crucial preclinical development of this novel protein, Bharathi Sriram, who rose from the ranks of a scientist to vice president, research and development (R&D), at GangaGen, is now gearing up for clinical trials of the P128 phage protein.

With over 20 years of experience in the field ranging from preclinical development to process development, Sriram attributes the valuable diverse knowledge she gained at renowned companies, such as Astra Zeneca and Dr Reddy's Labs, to be an important factor in spearheading the P128 project. After completing her MSc in Clinical Biochemistry from the Institute of Basic Medical Sciences, Chennai, she cleared the Council of Scientific and Industrial Research (CSIR) exam and started scouting for labs to continue her research. Reminiscing about those days she says, â€œLike many people at that time, I had the 'DNA fever' and, I joined Dr Modak's Lab in Pune University where my work was related to methylation damage where we found an exclusive distinct protein that was released after methylation, for the DNA repair in virus. I could not characterize the protein but found that it was specific to this type of damage.â€?

Following that, at AstraZeneca, Sriram worked on malaria under different platforms. Post this stint, she moved to the diagnostics division at Dr Reddy's Labs where she supervised quality control and the process development for biotherapeutics.

In late 2001, an exciting concept changed things around for Sriram. â€œThe scientist in me won while making this decision,â€? she says about the move to GangaGen. â€œThe original concept of working on bacteriophages as a mechanism to combat bacteria was very fascinating. We looked at the proteins involved in the infection of the bacteria by the phage, and we came across phage structure-associated proteins that degraded the cell wall of *Staphylococcus aureus*. Further, using cloning techniques, we developed P128 or StaphTAME protein that possesses the catalytic domain of the phage and an S. aureus targeting domain, thus awarding it a very good bactericidal activity, effective against even methicillin and vancomycin resistant *Staphylococcus* strains.â€? P128 would be effective against those who carry a high risk for nosocomial infections, including those who frequently undergo dialysis or for elective surgeries.

Sriram built and led the process and analytical development group at GangaGen where she was involved in evaluating the biochemical, biological and biophysical properties of the protein, and designed the manufacturing protocols as well. Citing the inexperience of the Indian regulatory authorities regarding novel products, Sriram is yet positive about the completion of the phase I and IIA clinical trials by next year to help bring StaphTAME in the market soon.

Manasi Vaidya in Bangalore