

DBT/ Regional Centre for Biotechnology

Sortases, a promising anti-infective drug produced from a Probiotic

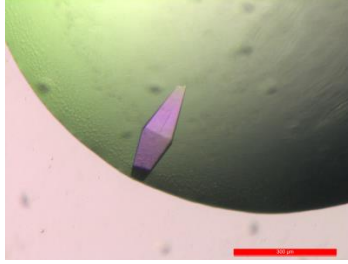
By Sunderarajan Padmanabhan

New Delhi, March 18: The laboratory of Dr. Vengadesan Krishnan at Regional Centre for Biotechnology have published a research paper in Crystallography Reports regarding Sortases, cysteine transpeptidase enzymes which assemble and attach the hair-like surface appendages (pili) and other surface proteins to the cell wall of Gram-positive bacteria.

Sortases from pathogens have received great attention as promising drug targets for anti-infective therapy by interfering their activity since they enable bacteria to adhere to host and other bacterial cells for pathogenesis and biofilm formation. Sortases have also shown to have a wide range of biotechnology applications. While traditionally the sortases are being studied in pathogens, their recent identification in non-pathogenic strains shed light on their essential role in beneficial or probiotic effects too.

To get structural insights about their mechanism of action in beneficial bacteria and explore their potential applications (e.g. vaccine carriers), the sortases (SrtA and SrtC1) from a gut-adapted probiotic strain *Lactobacillus rhamnosus* GG have been produced and successfully crystallized. The findings from this structural investigation programme would enhance our knowledge in understanding the mechanism and role of sortases in promoting beneficial interaction with the host.

The details of the paper are at <https://rdcu.be/b2bLj> [Sortases from a Probiotic *Lactobacillus rhamnosus* GG: Cloning, Expression, Purification, Crystallization and Preliminary X-Ray Diffraction Study (link to <https://link.springer.com/article/10.1134/S1063774519070162>)]



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