**Determination & Identification of MRSA Proteins using Drug Affinity Responsive Target Stability and Data Analysis for Identification of Drug Targets against Geninthiocin**

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Drug target identification and its validations remain an essential part of the procedure in drug discovery pipelines. The ligand Geninthiocin a thiopeptide was isolated from Streptomyces ICN19, had antibacterial properties against Methicillin-resistant Staphylococcus aureus (MRSA). MRSA proteins were extracted and submitted to the Drug Affinity Responsive Target Stability (DARTs) procedure for finding small molecule targets, which was used to identify potential Geninthiocin target proteins, by nano-LC-MS/MS Mass spectrum analysis. Dihydrolipoyl dehydrogenase and TonB-dependent receptor probable target proteins were identified for Geninthiocin, against Methicillin-resistant Staphylococcus aureus.

**Key words**: MRSA, Geninthiocin, drug target, proteonomics, DARTS