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Scientists receive Indian patent for TB therapeutics

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A team from THSTI and AIIMS received the patent

An invention entitled APTAMER AGAINST M.TB HUPB AND USE THEREOF has been granted for the term of 20 years from the 12th day of January 2017 in accordance with the provisions of the Indian Patents Act,1970.

This invention pertains to Dr Tarun Sharma, Senior Research scientist, Translational Health Science and Technology Institute (THSTI) and Dr Jaya S. Tyagi from AIIMS-New Delhi.

This patent is based on the invention of DNA aptamers against HupB, a protein that plays a vital role in Mycobacterium tuberculosis (*Mtb*) biology.

The entry and survival of *Mtb* within host cells is orchestrated partly by an essential histone-like protein HupB (Rv2986c). Despite being an essential drug target, the lack of structural information has impeded the development of inhibitors targeting the indispensable and multifunctional C-terminal domain (CTD) of HupB. To bypass the requirement for structural information in the classical drug discovery route, Dr Sharma in collaboration with Prof Jaya S. Tyagi generated a panel of DNA aptamers against HupB protein through Systemic Evolution of Ligands by EXponential (SELEX) enrichment.

Successful delivery of these aptamers in *Mtb* using appropriate vehicles (egliposomes) may lead to their application as a therapeutic agent for *Mtb*.