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Quantumzyme to develop green catalyst for pharma industry

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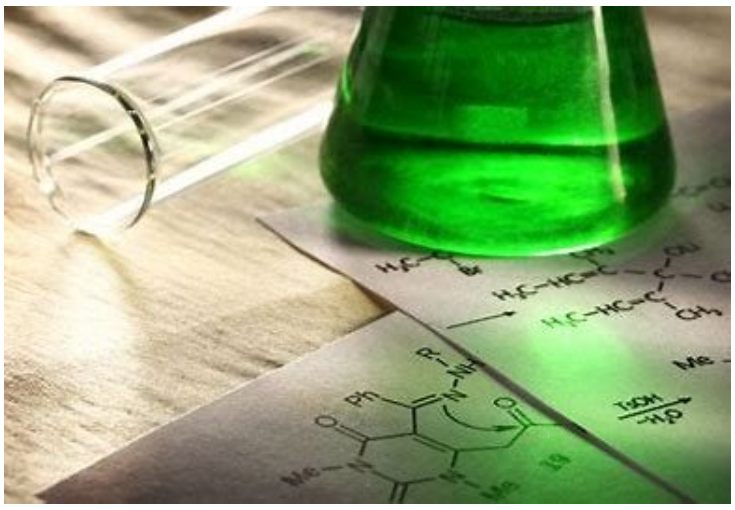
Green catalysts have the ability to catalyse various chemical reactions, making them an important option to environmentally hazardous chemical mechanisms



Bengaluru-based startup Quantumzyme has recently been granted a patent for the transaminase enzyme by applying its revolutionary technology QZyme Workbench in India.

The patent was granted for creating a green catalyst for one of the world's most significant chemical reactions, which can be useful for pharmaceutical and agricultural industries.

The groundbreaking "QZyme Workbench" technology can handle a wide range of important aspects of protein modeling and engineering, including structural refinement, ligand docking, conformational sampling, estimating substrate binding affinity, modeling catalytic reactions, identifying mutable hotspots, and further hotspot optimisation.

With diabetes quickly becoming a lifestyle disease in India, over 74 million active patients and a big community remains undiagnosed. The introduction of more affordable drugs is expected to increase volumes due to improved accessibility. Sitagliptin (Januvia) had its last days in India in the year 2022 and while Sitagliptin is a newer molecule to the Indian market, the cost of therapy is anticipated to fall from Rs 45 per day charged by Merck to Rs 8-18 per day charged by generic competitors.

Quantumzyme has discovered and optimised a new biocatalytic synthetic route for enantiopure chiral amine, a critical intermediate in the synthesis of Sitagliptin. This approach offers significant benefits to Indian generic players by reducing their dependency on China, where the key intermediate is currently imported, and by making the key intermediate available locally at competitive prices.