

Public Abstract

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Graduation Term:SS 2011

Department:Chemistry

Degree:PhD

Title:Structural and kinetic studies of bifunctional and monofunctional proline catabolic enzymes

PutAs, Proline dehydrogenase and P5C dehydrogenase are involved in the oxidation of proline to glutamate. Mutations in proline dehydrogenase and P5C dehydrogenase cause a disease condition known as hyperprolinemia. In this work I have solved the crystal structure of bifunctional PutA and P5C dehydrogenase. The structure of P5C dehydrogenase sheds light on the structural basis of hyperprolinemia. I have also used kinetic and thermodynamic methods to understand the molecular mechanism of hyperprolinemia.