Structural studies of proteins with therapeutical potential

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To understand complex biological processes responsible for infectious diseases, it is crucial to gain insight into the molecular mechanisms that control them. Structural biology can help address this challenge by revealing the three-dimensional organization and dynamic behaviour of key proteins involved in virulence and infectivity and provide a detailed view of how they function and interact within host cells.

In this project, we combine protein purification protocols with advanced tools such as single-particle cryo-electron microscopy and X-ray–based methods to determine the structures and conformational properties of selected proteins. Our findings will help to identify functionally important protein regions and potential sites for therapeutic targeting.

Overall, our research provides a basis for discovering druggable features and for developing new strategies to modulate biological systems and improve human health.