INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

SHORT ABSTRACT OF THESIS

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SHORT ABSTRACT

Huntington's disease (HD) is a progressive neurodegenerative disorder that becomes more severe with age. There is no specific therapeutic or treatment to date that can cure HD. However, scientists worldwide are continually working to find out effective therapies for HD. Since the identification of the HD gene, nearly 25 years ago, there has been enormous progress in understanding HD pathology's molecular features at the cellular level. These studies have led to the beginning of a systematic process of target selection and validating the potential HD therapeutic candidates.

QBP1 is a peptide that binds to the extended polyQ regions and prevent their transition from the monomeric protein to amyloid-like structures. Similarly, the role of $httN^{17}$ in modulating the huntingtin aggregation and pathogenicity has been reported in the literature. In this thesis, the analogs of these peptides were designed to understand the structural basis of the activity and to come up with better aggregation inhibitors.