Investigating the effects of disease-causing mutations on the stability and dynamic properties of the human Hint1 protein

Researchers:

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Idioma Indefinido

Descrição:

Proyecto asignado a través de la Red Española de Supercomputación (RES [2]).

Mutations of the dimeric Hint1 enzyme are well-known to cause neuropathy associated with neuromyotonia (NMAN). So far, 25 distinct NMAN causative variants have been identified world-wide. Structure-based bioinformatics predictors and in vivo assays revealed that certain variants compromise the protein stability more than the others. In this molecular dynamics (MD) simulation study, we scrutinize the structural dynamics of the wild-type and the single-residue mutant constructs, moreover, the extent of the destabilization effect of disease variants by MD simulations and thermodynamic integration in order to find disease variants that only compromise the stability to the extent that it is rescuable by small molecule stabilizers.

URL de origem:https://www.cenits.es/pt-pt/proyectos/investigating-effects-disease-causing-mutations-stability-and-dynamic-properties-human

Ligações

[1] https://vib.be/vib-vub-center-structural-biology [2] https://www.res.es/