EPFL-TTO

EPFL Innovation Park J
CH-1015 Lausanne
Switzerland
+41 21 693 70 23
http://tto.epfl.ch/

Research Contact

Prof. Hilal Lashuel

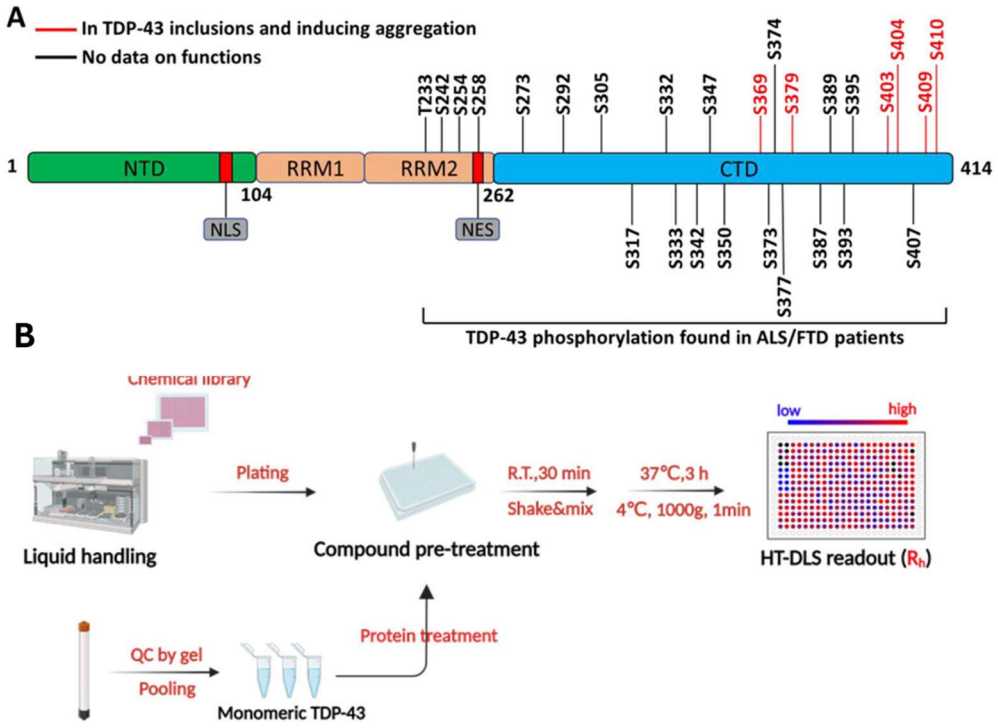
TTO Contact

Adam Swetloff
+41 21 693 70 37
adam.swetloff@epfl.ch

Licensing Opportunity

TTO – Technology Transfer Office

Native state stabilisation of TDP-43 using phosphomimetic mutants



A. phosphomimetic variants based on finding that TDP-43 domains and ALS/FTD-relevant phosphorylation sites are found in C-domain of TP43, B. high throughput screening design using the phosphomimetic variants that are monomeric at RT and aggregate at 37 °C.

Ref. Nr

6.2368

Keywords

TPD-43, DNA-binding protein 43 kDa, Amyotrophic Lateral Sclerosis (ALS, Parkinson Diseases, neurodegenerative diseases

Intellectual Property

WO2024223615

Publications

Angew Chem Int Ed Engl.2024 Jan 15;63(3)

Date

16/04/2025

Description

Transactive response DNA binding protein with 43 kDa (TDP-43) misfolding and aggregates have been associated with ALS as well as other neurodegenerative diseases. Stabilising the monomeric form of the TDP-43 variant offers the unique opportunity to identify inhibitors and modulators of TPD-43 aggregation.

The technology relies on TPD-43 variants with phosphomimetic mutations of the C-terminus. The variants are monomeric for days at 4 °C or RT and be induced to aggregate and form TDP-43 fibrils by increasing the temperature to 37 °C.

Advantages

The phosphomimetic substitutions preserve the basic functions or cellular properties of TDP-43.

Applications

- Therapeutic screening of aggregation inhibitors of TP-43
- ALS, Parkinson, Alzheimer's disease and other neurodegenerative diseases.