The role of 3? UTR variation in the molecular pathogenesis of motor neuron disease.

https://www.neurodegenerationresearch.eu/survey/the-role-of-3-utr-variation-in-the-molecular-pathogenesis-of-motor-neuron-disease-2/

Name of Fellow

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Research Abstract

3? untranslated regions (3? UTRs) play critical roles in the control of mRNA translation and

stability by presenting sequence motifs and secondary structural elements that mediate interactions between the mRNA and other factors such as proteins or miRNAs. Recent studies have demonstrated that human genetic variations in UTRs impact upon gene expression to a similar degree to variations in promoter sequences. We hypothesise that 3? UTR sequence variation disrupts mRNA stability and the control of transcription, which can contribute to the pathogenesis of diseases such as cancer or neurodegeneration. We will use a combination of genetic and biochemical investigations in differentiated human motor neurones with computational modelling to study the impact of alternative 3? UTRs on health and disease.

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