TRANSNEURO

Altered mRNA translation as a pathogenic mechanism across neurodegenerative diseases

Neurodegenerative and neurodevelopmental diseases constitute a major health burden, and in spite of several decades of intensive research, the molecular mechanisms underlying these diseases are still poorly understood, and effective drug treatments are generally lacking. Alterations in protein synthesis have been implicated in several of these diseases, including the diseases we will study in this proposal: Alzheimer's disease, prion disease, Parkinson's disease, Charcot-Marie-Tooth disease and autism spectrum disorders.

We aim to gain novel insights into the molecular mechanisms underlying these diseases, with a particular focus on defects in protein synthesis. Are common mechanisms at play in different diseases? We will use mouse models for the respective diseases, and apply a novel methodology to identify and quantify proteins and their levels in specific cell types in these mouse models. By combining the complementary technical and thematic expertise of the consortium partners, we expect to gain unprecedented insights into the molecular mechanisms of these diseases and their associated defects in protein synthesis. This may lay the foundation for rational drug design for these currently incurable diseases.

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Duration: 3 years

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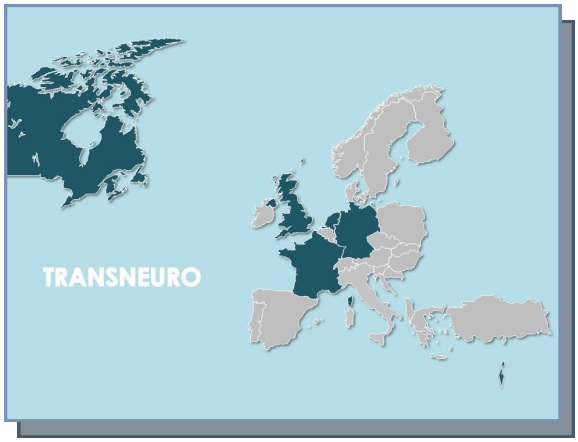

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