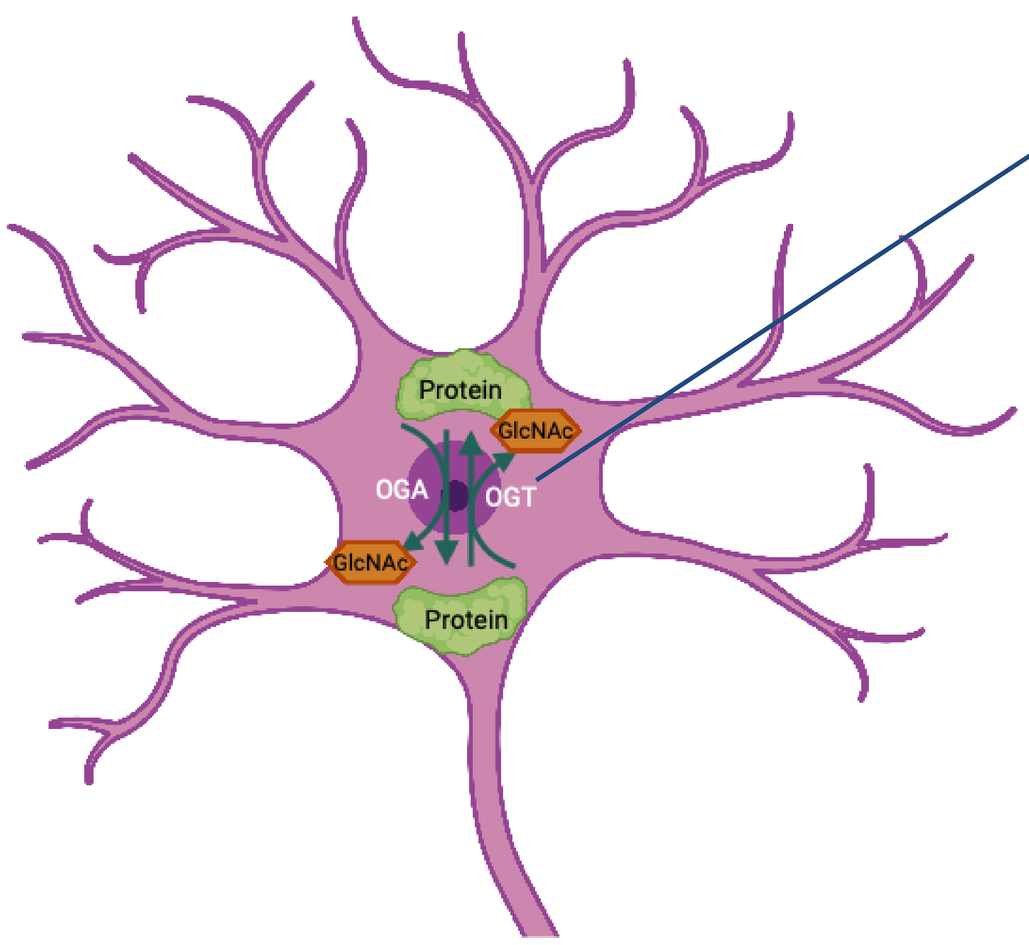
DANDRITE
Danish Research Institute of Translational Neuroscience
Nordic EMBL Partnership for Molecular Medicine

The role of dysfunctional post-translational modification to the development and progression of neurodevelopmental disorders.

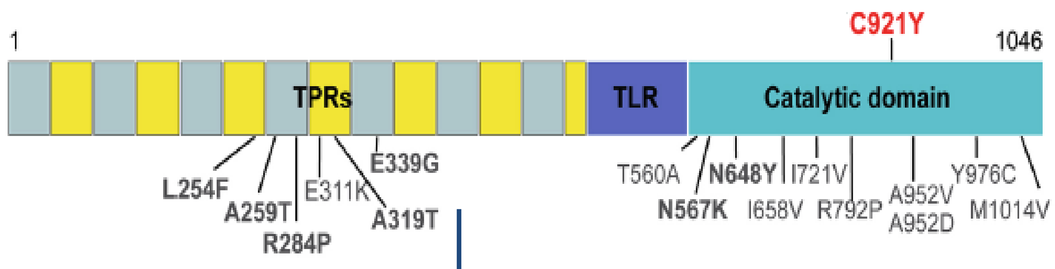
Daan van Aalten research group

Background:

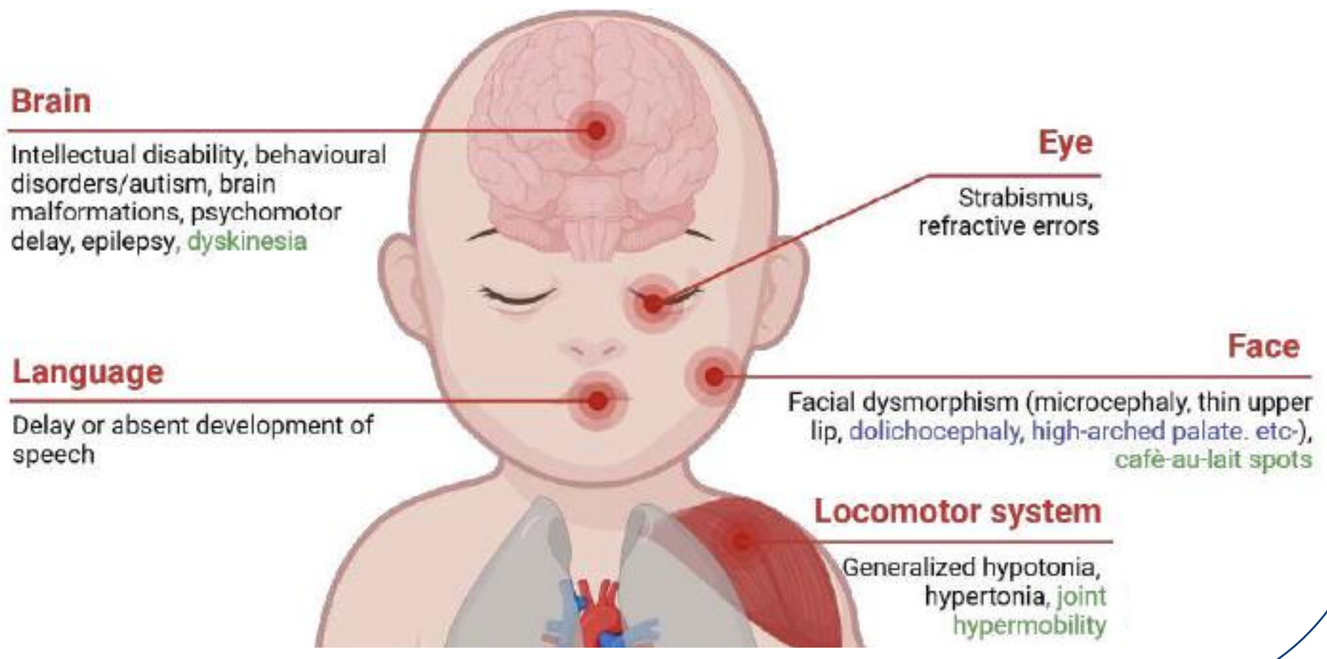
O-GlcNAcylation



Mutations



Neurodevelopmental disorders



Projects

1. What is the role of O-GlcNAcylation in neuronal development and maturation
2. What are consiquences of OGT mutation in brain cells fucntion?
3. What are the brain proteins that are O-GlcNAcylated?
4. Are some brain regions more valnurable of impairment in O-GlcNAcylation than others and why?
5. Do some mutations give more severe phenotype than others?
6. Can we recreate patients symptoms in cell/animal models to study pathophysiology of the disorders?

Techniques

Experimental models:

- Stem cells
- Mouse and human primary neuronal/astrocytes/microglia
- oiu
- Mouse
- Artificial Intelligence

Techniques:

1. Cell culture
2. Microscopy
3. Immunoblotting
4. Flow cytometry
5. Proteomics
6. Animal behaviours
7. RNA sequencing
8. Viral transduction
9. Spatial transcriptomics
10. *In silico* analysis
11. Bioinformatics

Molekylærbiologi: Ja
Molekylær Medicin: Ja
Bioteknologi: Ja

novo nordisk fonden

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