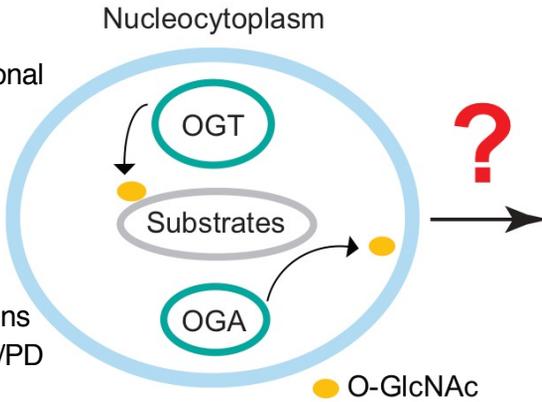


The mechanisms of a new neurodevelopmental disorder

The new NNF Laureate-funded van Aalten lab @MBG, AU

What is O-GlcNAc?

- Post-translational modification
- Glycosylation
- Essential
- Conserved
- X-linked
- On >4K proteins
- Links with AD/PD



But what is its function?

What is OGT-CDG?



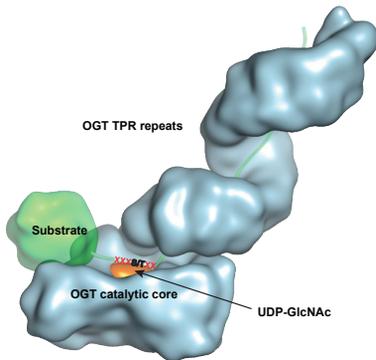
OGT missense mutations

"OGT-CDG"

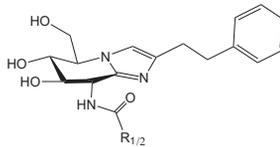
Intellectual disability
Developmental delay
Epilepsy
Autism

PNAS (2019),
EJHG (2020),
Unpublished

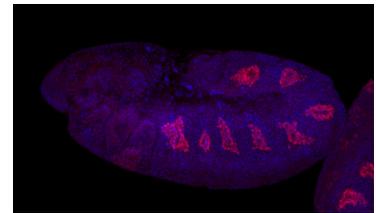
Things we have done in the past



Structures
(e.g. *EMBO J.* 2006,2008)



Chemical tools
(e.g. *Chem.Biol.* 2010)



Development
(e.g. *Nat.Chem.Biol.* 2017)

Things we will do @MBG

Main aim: understand how OGT-missense mutations lead to intellectual disability

- Develop fly/mouse/ESC models
- Modulate using genetic/chemical tools
- Dissect through biochemistry/"omics"
- Understand through structural biology
- Interact with clinicians/patients

The lab @MBG from June 1st



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