



Seminar

Friday September 30th | 11.00

Amphithéâtre de la délégation du CNRS
Domaine Universitaire de la DOUA, 2 Rue Albert Einstein, Villeurbanne
(http://oscar.univ-lyon1.fr/appli-externe/plan/plans/plan_campus_ouest.html)

Sandrine Humbert

GIN - Inserm UI216 - University Grenoble Alpes, Grenoble, France

<https://neurosciences.ujf-grenoble.fr/l-institut/equipes-recherche/equipe-humbert>

"Huntingtin regulates cortical development: consequences for Huntington's disease"

Abstract

The bulk of interest in the huntingtin protein has centered on the fact that, when mutated, huntingtin causes Huntington's disease (HD), a devastating neurodegenerative disorder. The mutation causing HD is an abnormal polyglutamine stretch in huntingtin. Given the adult onset and dysfunction and death of adult neurons characterizing HD, most studies have focused on the toxic effects elicited by mutant huntingtin in post-mitotic neurons. However, the protein is ubiquitous and expressed in the developing embryo where it plays an essential role as revealed by the early embryonic lethality at day 7.5 of the complete knockout of the huntingtin gene in mouse. Anyway, the roles of the wild-type protein during development have been overlooked. I will discuss how huntingtin regulates several steps of mouse embryonic corticogenesis. I will also show the consequences of the presence of an abnormal polyglutamine expansion in huntingtin during cortical neurogenesis and consider the viewing of HD as a developmental disorder.

If you wish to meet Sandrine Humbert, please contact Julien Courchet (julien.courchet@univ-lyon1.fr).

Selected recent publications:

Saudou F and Humbert S (2016). The Biology of Huntingtin. **Neuron**, 89, 910-26.

Elias S, McGuire JR, Yu H and Humbert S (2015). Huntingtin is required for epithelial polarity through RAB11A mediated apical trafficking of PAR3-aPKC. **Plos Biol**, 13:e1002142.

Molina-Calavita M, Barnat M, Elias S, Aparicio E, Piel M and Humbert S (2014). Mutant huntingtin affects cortical progenitor cell division and development of the mouse neocortex. **J Neurosci**, 34, 10034-10040.

Godin JD, Colombo K, Molina-Calavita M, Keryer G, Zala D, Charrin BC, Dietrich P, Volvert ML, Guillemot F, Dragatsis I, Bellaïche Y, Saudou F, Nguyen L and Humbert S (2010). Huntingtin is required for mitotic spindle orientation and mammalian neurogenesis. **Neuron**, 67, 392-406.
