

**$\alpha$ -Synuclein transgenic mice**

Among the myriad of hot topics discussed at the ADPD this year in Florence, the aggregation and propagation of  $\alpha$ -synuclein appeared in the spotlight.

Interested in testing your developmental compound in an appropriate animal model reflecting the pathological features of Parkinson's Disease?

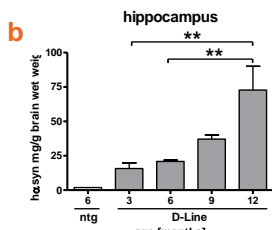
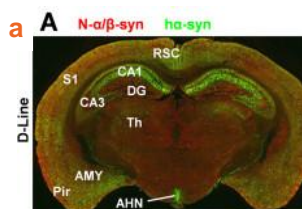
**QPS Neuropharmacology announces:**

**Availability of 2 fully characterized  $\alpha$ -synuclein transgenic animal models**

Parkinson's disease belongs to the most devastating neurodegenerative diseases. Neuronal loss in the substantia nigra and pathological aggregation of  $\alpha$ -synuclein ( $\alpha$ -syn) protein are the major morphological hallmarks underlying the observed progressive motor decline in affected people.

**D-Line**

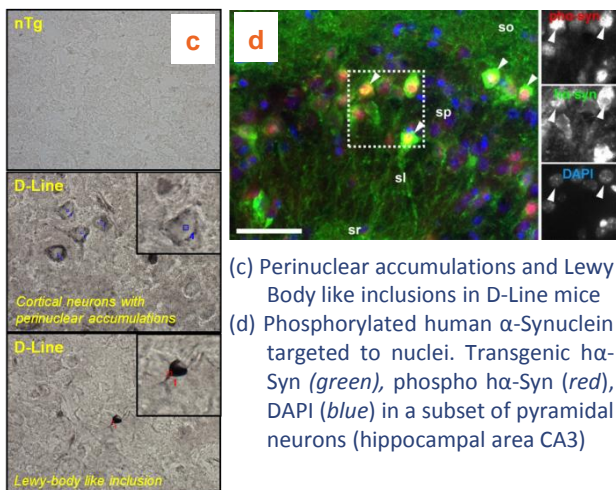
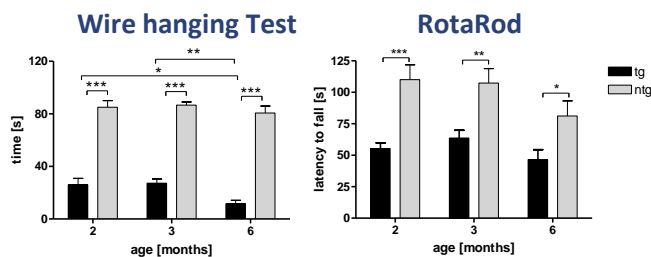
- ❑ Overexpression (3 to 4 times) of human wild-type  $\alpha$ -syn, human PDGF promoter
- ❑ Progressively increasing levels of human  $\alpha$ -syn
- ❑ Lewy Body like inclusions
- ❑ Loss of striatal dopaminergic synapses



(a) Expression pattern of human (green) versus murine (red)  $\alpha$ -syn in neocortical and hippocampal areas  
 (b)  $\alpha$ -syn protein expression in D-Line mice (ELISA)

**Line 61 (TNWT)**

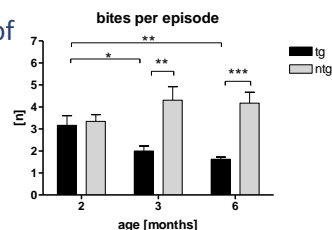
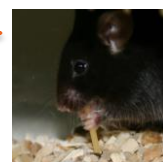
- ❑ Overexpression (around 10 times) of human wild-type  $\alpha$ -syn, murine Thy-1 promoter
- ❑ Axonal  $\alpha$ -syn depositions
- ❑ Loss of striatal dopaminergic synapses
- ❑ Various behavioral deficits including motor, emotional and cognitive impairment



(c) Perinuclear accumulations and Lewy Body like inclusions in D-Line mice  
 (d) Phosphorylated human  $\alpha$ -Synuclein targeted to nuclei. Transgenic  $\alpha$ -Syn (green), phospho  $\alpha$ -Syn (red), DAPI (blue) in a subset of pyramidal neurons (hippocampal area CA3)

**Pasta Gnawing Test**

- ❑ Gnawing noises of mice eating dry spaghetti are recorded
- ❑ Biting speed and number of bites during one chewing period (episode) are evaluated



**Interested in our A53T-synuclein transgenic model?**

A point mutation identified in rare forms of familial PD. Full characterization including behavioral studies of A53T-synuclein transgenic animal model will be published soon  
**Visit our homepage or contact us to get detailed information on our in vivo and in vitro services!**

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Amschl D. et al. **Time course and progression of wild type  $\alpha$ -synuclein accumulation in a transgenic mouse model.** BMC Neurosci. 2013 Jan 9;14:6