Nature Reviews Neurology **10**, 674 (2014); published online 18 November 2014;
doi:10.1038/nrneurol.2014.218;
doi:10.1038/nrneurol.2014.219;
doi:10.1038/nrneurol.2014.220;
doi:10.1038/nrneurol.2014.221

IN BRIEF

NEURO-ONCOLOGY

Nuclear export protein inhibitors could limit glioblastoma growth

Selective inhibitors of nuclear export (SINEs) might offer hope for patients with glioblastoma. Green *et al.* found that SINEs, such as KPT-276, slowed down the growth of patient-derived glioblastoma neurosphere cultures, and prolonged survival in glioblastoma mouse model grafted with patient-derived glioblastoma cells. Because KPT-276 has excellent brain penetration and has been previously investigated for treatment of other forms of cancer, the researchers have initiated a clinical trial in patients with relapsed glioblastoma.

Original article Green, A. L. *et al.* Preclinical antitumor efficacy of selective exportin 1 inhibitors in glioblastoma. *Neuro-Oncology* doi:10.1093/neuonc/nou303

NEURODEVELOPMENTAL DISORDERS

Whole-exome sequencing elucidates genetic architecture of autism spectrum disorder

The results of the largest whole-exome sequencing study so far in autism spectrum disorder (ASD) suggest that interplay between common and rare genetic variants contributes to neurodevelopmental disorders. Comparison of 3,871 individuals with ASD and 9,937 parental or ancestry-matched controls identified 129 autosomal genes that were associated with ASD. Many of the genetic variants were *de novo* mutations in genes implicated in synaptic formation, transcriptional regulation and chromatin-remodelling pathways, thus providing insight into neurobiology of ASD.

Original article De Rubeis, S. *et al.* Synaptic, transcriptional and chromatin genes disrupted in autism. *Nature* doi:10.1038/nature13772

SLEEP

Sleep deprivation linked to blood–brain barrier disruption

Sleep restriction of just 6 days impairs several aspects of blood–brain barrier function in mice, according to new research published in *The Journal of Neuroscience*. These findings might have widespread implications for public health given the common occurrence of sleep restriction and disturbances in the general population. Chronic sleep impairment has previously been connected to neurodegenerative disorders, such as Alzheimer disease, but little was known about the mechanisms through which sleep restriction increases susceptibility to neurodegeneration.

Original article He, J. *et al.* Sleep restriction impairs blood–brain barrier function. *J. Neurosci.* doi:10.1523/JNEUROSCI.2111-14.2014

PARKINSON DISEASE

SNCA genetic variability and head injury could jointly increase the risk for PD

Head injury and genetic variants of the α-synuclein-encoding *SNCA* might co-influence susceptibility to Parkinson disease (PD), a new study shows. Regression analysis of history of head injury and *SNCA* alleles in 561 individuals with idiopathic PD and 721 controls indicated that certain *SNCA* variants were associated with 3–4.5-fold risk for PD after head injury. Interplay between head injury and α-synuclein variants could explain why previous reports of the link between PD and head injury have been inconclusive.

Original article Lee, P. C. *et al.* Head injury, α-synuclein genetic variability and Parkinson's disease. *Eur. J. Neurol.* doi:10.1111/ene.12585

© 2014 Macmillan Publishers Limited. All rights reserved